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-722A-62 Sequence 62, 3-722A-64 Sequence 64, 3-722A-68 Sequence 68, 3-722A-18 Sequence 10, 3-722A-110 Sequence 11, 3-722A-111 Sequence 11, 3-722A-111 Sequence 11, 3-722A-111 Sequence 11, 3-722A-111 Sequence 21, 3-72A-111 Sequence	3-170A-6 Sequence 4, 3-170A-6 Sequence 6, 3-170A-8 Sequence 8, 3-170A-10 Sequence 12, 3-170A-14 Sequence 12, 3-170A-14 Sequence 12,	8-170A-16 Sequence 16, 3-170A-18 Sequence 28, 2-170A-20 Sequence 22, 3-170A-24 Sequence 24, 3-170A-26 Sequence 26, 3-170A-26 Sequence 36, 3-170A-28 Sequence 36, 3-170A-38 Sequence 36, 3-170A-38	3-170A-32 Sequence 32, 3-170A-34 Sequence 34, 3-170A-36 Sequence 38, 3-170A-40 Sequence 40, 3-170A-42 Sequence 44, 3-170A-46 Sequence 44, 3-170A-46 Sequence 46,	170A-58 Sequence 50, 2170A-54 Sequence 51, 2170A-50 Sequence 51, 2170A-62 Sequence 66, 2170A-64 Sequence 66, 2170A-66 Sequence 66, 2170A-68 Sequence 98, 2170A-10 Sequence 10, 2170A-11 Sequence 11, 2170A-11 Sequence 2, 20, 20, 20, 20, 20, 20, 20, 20, 20,	Sequence 6, Sequence 7, Sequence 10 Sequence 10 Sequence 11 Sequence 12 Sequence 22 Sequence 22 Sequence 26 Sequence 30 Sequen	3-775B-31 3-775B-31 3-775B-40 3-775B-40 3-775B-40 3-775B-42 3-775B-46 3-775B-46 3-775B-60 3-775B-50 3-775B-50 3-775B-50 3-775B-50 3-775B-50 3-775B-60 3-775B-60 3-775B-60 3-775B-60 3-775B-60 3-775B-60 3-775B-60 3-775B-60 3-775B-60 3-775B-60 3-775B-60 3-775B-60 3-775B-60 3-775B-60 3-775B-60
3 US-08-993-722A-62 Sequence 62, 3 US-08-993-722A-64 Sequence 64, 3 US-08-993-722A-68 Sequence 68, 3 US-08-993-722A-68 Sequence 18, 3 US-08-993-722A-10 Sequence 111, 3 US-08-993-722A-111 Sequence 111, 3 US-08-993-722A-111 Sequence 111, 3 US-08-993-772A-111 Sequence 21,	3 US-08-993-170A-4 Sequence 4, 3 US-08-993-170A-6 Sequence 6, 3 US-08-993-170A-8 Sequence 8, 3 US-08-993-170A-10 Sequence 12, 3 US-08-993-170A-14 Sequence 12, 3 US-08-993-170A-14 Sequence 14, 3 US-08-993-170A-14	3 US-08-993-170A-16 Sequence 16, 3 US-08-993-170A-20 Sequence 28, 20-08-993-170A-20 Sequence 22, 3 US-08-993-170A-24 Sequence 22, 3 US-08-993-170A-26 Sequence 24, 3 US-08-993-170A-26 Sequence 26, 3 US-08-993-170A-28 Sequence 36, 3 US-08-993-170A-29 Sequence 36, 3 US-08-993-170A-20 Sequence 30, 30, 30, 30, 30, 30, 30, 30, 30, 30,	3 US-08-993-170A-32 Sequence 32, 3 US-08-993-170A-34 Sequence 34, 3 US-08-993-170A-36 Sequence 38, 3 US-08-993-170A-40 Sequence 40, 3 US-08-993-170A-40 Sequence 44, 3 US-08-993-170A-42 Sequence 44, 3 US-08-993-170A-44 Sequence 44, 3 US-08-993-170A-46 Sequence 46,	3 US-08-993-170A-58 Sequence 50, 3 US-08-993-170A-54 Sequence 51, 3 US-08-993-170A-60 Sequence 51, 3 US-08-993-170A-62 Sequence 61, 3 US-08-993-170A-64 Sequence 64, 3 US-08-993-170A-64 Sequence 64, 3 US-08-993-170A-66 Sequence 66, 3 US-08-993-170A-68 Sequence 98, 3 US-08-993-170A-108 Sequence 10, 3 US-08-993-170A-110 Sequence 11, 3 US-08-993-170A-110 Sequence 2, 3 US-08-993-170A-110 Sequence 2, 3 US-08-993-170A-110 Sequence 11, 3 US-08-993-170A-110 Sequence 2, 3 US-08-993-170A-110	3-775B-6 Sequence 4, 3-775B-6 Sequence 10, 3-775B-10 Sequence 10, 3-775B-10 Sequence 10, 3-775B-10 Sequence 10, 3-775B-10 Sequence 20, 3-775B-20 Sequence 30, 3-775B-20 Sequence 30, 3-775B-20 Sequence 30, 3-775B-20 Sequence 30, 3-775B-30 Sequence 30, 3-	3 US-08-993-775B-36 Sequence 36 US-08-993-775B-36 Sequence 40 US-08-993-775B-40 Sequence 40 US-08-993-775B-40 Sequence 40 US-08-993-775B-46 Sequence 46 US-08-993-775B-46 Sequence 50 US-08-993-775B-46 Sequence 50 US-08-993-775B-50 Sequence 50 US-08-993-775B-50 Sequence 50 US-08-993-775B-50 Sequence 50 US-08-993-775B-60 Sequence 50 US-08-993-775B-60 Sequence 60 US-08-993-775B-60 US-08-993-
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7.25	US-09-816-703A-2 US-09-751-189-4 US-09-06-356-4 US-09-0836-4 US-09-036-987A-6 US-09-036-987A-6 US-09-036-987A-6 US-09-603-207-6 US-09-714-741-32 US-09-714-741-32 US-08-714-741-32 US-08-712-752-6 US-08-937-228-120 US-08-934-222-99 US-08-933-402-99 US-08-933-402-99 US-08-933-402-99	_	8888 19 1	US-09-540-236-3230 US-09-540-236-3230 US-09-134-000(-3642 US-09-134-000(-3642 US-09-732-210-211 US-08-459-4688-24 US-08-459-4688-24 US-08-459-5048-24 US-08-459-444-24 US-08-459-444-24 US-09-543-428-328-52 US-09-328-328-52
22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	40000000000000000000000000000000000000	UUUUUUU44444500045044445	f () () () ਰਾਹਾਰਾਰਾਰਾਰਾਰਾਰਾਰਾਰਾਰਾਰਾਰਾਰਾ	***************************************
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4 VAEF 7
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                                                                                                                                                                                                                                    RESULT 2
US-09-724-566A-81
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                                  sequence 2149, Ap Sequence 2313, Ap Sequence 23529, A Sequence 2, Appli Sequence 2, Appli Sequence 30, Appli Sequence 12, Appli Sequence 12, Appli Sequence 12, Appli Sequence 12, Appli Sequence 2, Appli Sequence 2, Appli Sequence 4, Appli Sequence 14, Appli Sequence 2, Appli Sequence 2, Appli Sequence 2, Appli Sequence 4, Appli Sequence 3, Appli Sequence 4, Appli 
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Sequence 78, Application US/09724566A

Sequence 78, Application US/09724566A

Sequence 78, Application US/09724566A

GENERAL INFORMATION:
APPLICANT: Anderson, John P.
APPLICANT: Basi, Gurighal
APPLICANT: Frigon, No. 6627739mand
APPLICANT: Frigon, No. 6627739mand
APPLICANT: Sinha, Sukanto
APPLICANT: Sinha, Sukanto
APPLICANT: Tung, Jax
APPLICANT: Wang, Shuwen
TITLE OF INVENTION: Methods
TITLE OF INVENTION NUMBER: 06/119,571
PRIOR FILING DATE: 2000-01-0
PRIOR FILING DATE: 1999-06-15
NUMBER OF SEQ ID NOS: 104
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 78
TEMPERATE THE TABLET TABLET THE TABLET TABLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match

95.0%; Score 19; DB 4; Length 7;
Best Local Similarity 100.0%; Pred. No. 3e+05;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURE:
NAME/KEY: MOD_RES
LOCATION: 3
CTHER INPORMATION: Xaa is hydroxyethylene or statine
JS-09-724-566A-78
                                           US-09-540-236-2149
US-09-489-039A-9313
US-09-489-039A-12815
US-09-252-991A-23529
US-09-053-702-2
                                                                                                                                                                                                                            US-09-540-236-2349

US-09-372-428A-8

US-09-372-448A-4

US-09-372-448A-4

US-09-314-701-30

US-09-372-428A-12

US-09-372-422A-16

US-09-372-422A-16

US-09-372-422A-16

US-09-372-422A-1

US-09-328-352-6427
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: PRT ORGANISM: Artificial Sequence
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A UADE 7

MESULT 2

MESULT 2

MESULT 2

MESULT 3

MESULT
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PatentIn Release #1.0, Version #1.25
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Pred. No. 3e+(
0; Mismatches
                CURRENT APPLICATION DATA.

APPLICATION NUMBER: US/08/197,484
CLASSIFICATION 16-FEB-1994
CLASSIFICATION 16-FEB-1994
CLASSIFICATION DATA.
APPLICATION DATA.
BRICK APPLICATION DATA.
APPLICATION DATA.
APPLICATION DATA.
BRICK APPLICATION DATA.
APPLICATION DATA.
APPLICATION DATA.
APPLICATION DATA.
ATTORNER. 29-JAN-1992
PRIOR APPLICATION DATA.
ATTORNER. 29-JAN-1992
ATTORNER. 26-AUG-1991
ATTORNEY/AGENT INFORMATION.
NAME: PARMELS. 26-AUG-1991
ATTORNEY/AGENT INFORMATION.
TELECOMMUNICATION INFORMATION.
TELECOMMUNICATION INFORMATION.
TELECOMMUNICATION INFORMATION.
TELECOMMUNICATION INFORMATION.
TELECOMMUNICATION INFORMATION.
TELEFAX: (206) 623-6793
INFORMATION FOR SEQ ID NO: 145:
SEQUENCE CHARACTERIFICS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3, Application US/09724566A
6627739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 100.0%; Pr
Matches 4; Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Anderson, John P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
STANDEDNESS: unknown
TOPOLOGY: unknown
MOLECULE TYPE: peptide
US-08-197-484-145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGIH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             d
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: CHESTNUT, Robert W.
APPLICANT: CHESTNUT, Robert W.
APPLICANT: SETTE, Alegandro D.
APPLICANT: GELS, Esteban
APPLICANT: GELY, Howard
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR ELICITING
TITLE OF INVENTION: CT. IMMONITY
NUMBER OF SEQUENCES: 153
CORRESPONDENCE ADDRESS:
ADDRESSE: Towneend and Townsend Khourie and Crew
STREET: Steuart Street Tower, One Market Plaza
CITY: San Francisco
STATE: California
COUNTRY: US
3
ZIP: 94105-1493
ZIP: 94105-1493
ZIP: 10997 disk
COMPUTER: ISH PC Compatible
COMPUTER: ISH PC Compatible
COMPUTER: ISH PC Compatible
COMPUTER: ISH PC Compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
0
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                                  COUNTRY: US

COMPUTER READABLE FORM:
MEDIUM TYPER: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/NS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US /08/197,484
FILING DATE: 16-FEB-1994
CLASSIFICATION: 424
PRIOR APPLICATION NUMBER: US 07/935,811
FILING DATE: 26-AUG-1992
PRIOR APPLICATION NUMBER: US 07/844,491
FILING DATE: 27-AUG-1992
PRIOR APPLICATION NUMBER: US 07/827,682
FILING DATE: 29-AUR-1992
PRIOR APPLICATION NUMBER: US 07/749,568
FILING DATE: 26-AUG-1991
PRIOR APPLICATION NUMBER: US 07/749,568
FILING DATE: 26-AUG-1991
ATTORNEY AGENT INFORMATION:
NAME: Parmelee, Steven W.
REGISTRATION NUMBER: 31,940
REGISTRATION NUMBER: 14137-26-4
TELEPHONE: (206) 467-9600
TELEPHONE: (206) 623-6793
INFORMATION FOR SEQ ID NO: 86:
SEQUENCE CHARACTER.ESTICS:
LENGTH: 9 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 145, Application US/08197484 Patent No. 6419931 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       unknown
     California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: amino acid STRANDEDNESS: unk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-197-484-86
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APPLICANT: Augleten, volumer Frigory (Barique)
APPLICANT: Doane, Mith Tam
APPLICANT: Doane, Mith Tam
APPLICANT: John, Varghese
APPLICANT: John, Varghese
APPLICANT: Sinha, Sukanto
APPLICANT: Tatsuno, Gwen
APPLICANT: Tatsuno, Gwen
APPLICANT: Tung, Jay
APPLICANT: Mang, Shuwen
APPLICANT: McConloque, Lisa
TITLE OF INVENTION: Methods
TITLE OF INVENTION: Methods
TITLE OF INVENTION: Methods
TITLE OF INVENTION: Methods
TITLE OF INVENTION WIMBER: US 09/501,708
FILE REFERENCE: 228-US-NEWC2
CURRENT APPLICATION NUMBER: 00/119,571
FRIOR FILING DATE: 2000-02-10
FRIOR PRICE TILING DATE: 1999-02-10
FRIOR PRICE TILING DATE: 1999-02-10
FRIOR APPLICATION NUMBER: 00/139,172
FRIOR PRICE APPLICATION NUMBER: 00/139,172
FRIOR FILING DATE: 1999-06-15
NUMBER OF SEQ ID NOS: 104
SEQ ID NOS: 104
SEQ ID NO 73
LENGTH: 9
, DB 4; Le...
n. 3e+05;
0; Indels
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RESULT 7
7
727-1085-02121-145
8-equence 145, Application PC/TUS9502121
GENERAL INFORMATION:
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US-09-724-566A-72
Sequence 72, Application US/09724566A
Fatent No. 6627739
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Doane, Minh Tam
Frigon, No. 6627739mand
John, Varghese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (206) 467-9600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: (415) 543-5043
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOLECULE TYPE: peptide PCT-US95-02121-145
2 VARF 5
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                                                                                                                                                                                                                                                                                               Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPOSITIONS AND METHODS FOR ELICITING CTL IMMUNITY 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 95.0%; Score 19; DB 5; Length 9; Best Local Similarity 100.0%; Pred. No. 3e+05; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                       Ouery Match
95.0%; Score 19; DB 4; Length 9; Best Local Similarity 100.0%; Pred. No. 3e+05;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
CURRENT APPLICATION DATA:
APPLICATION DATA:
FILING DATE: 16-FEB-1995
CLASSIFICATION DATA:
RADELICATION DATA:
APPLICATION NUMBER: US 08/197,484
FILING DATE: 16-FEB-1994
RIGHR APPLICATION DATA:
APPLICATION NUMBER: US 07/935,811
FILING DATE: 26-AUG-1992
RIOR APPLICATION DATA:
APPLICATION WHERE: US 07/935,811
FILING DATE: 27-ARR-1992
RIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/874,491
FILING DATE: 29-ANN-1992
RIUNG DATE: 29-ANN-1992
RIUNG DATE: 26-AUG-1991
APPLICATION NUMBER: US 07/749,568
FILING DATE: 26-AUG-1991
ATTORNEY/AGENT INFORMATION:
NAME: PARMELE S. 6-AUG-1991
ATTORNEY/AGENT NUMBER: 14137-26-4PC
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEDEPLOYE: (206) 467-5600
                                                               CTHER INFORMATION: P4-P4'staD-V peptide inhibitor
FEATURE:
NAME/KEY: MOD_RES
LOCATION: 5
OTHER INFORMATION: Xaa is statine moiety
US-09-724-566A-73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: COMPOSITIONS AND TITLE OF INVENTION: CTL IMMUNITY NUMBER OF SEQUENCES: 153
COMPUTER READABLE FORM:
MEDIUM TYPE: FIDEPRY disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 86, Application PC/TUS9502121
GENERAL INFORMATION:
             ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY: unknown
MOLECULE TYPE: peptide
PCT-US95-02121-86
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ABPLICANT:
TITLE OF INVENTION:
COMPOSITIONS AND METHODS FOR ELICITING
TITLE OF INVENTION:
TOTAL OF THE STATEMENT OF THE STAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 19; DB 5; Length 9;
Pred. No. 3e+05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match

95.0%; Score 19; DB
Best Local Similarity 100.0%; Pred. No. 3e+
Matches 4; Conservative 0; Mismatches
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DB 4; Length 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4-20615/P1/CGC 1834
                                                                                                                 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION: 435
CILASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/005,652
FILING DATE: 18-0CT-1995
ATTORNEY/AGENT INFORMATION:
NAME: NO. 583783984; Henry P.
REGISTAATION NUMBER: 33200
REFERENCE/DOCKET NUMBER: 4-20615/P1
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908) 277-5110
TELEPHONE: (908) 277-5110
TELEPHONE: (908) 277-516
TELEPHONE: (908) 277-4666
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
TRANGTH: 28 aming acids
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Harkness, Robin
Schryvers, Anthony
Chong, Pele
          Query Match
Best Local Similarity 100.v.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    linear
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US-08-487-890A-69
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APPLICANT:
APPLICANT:
APPLICANT:
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APPLICANT: Wang, Jay
APPLICANT: Wang, Shuwen
APPLICANT: Wang, Shuwen
APPLICANT: Wang, Shuwen
APPLICANT: MaCOnloque, Lisa
ITILE OF INVENTION: Beta-Secretase Enzyme Compositions and
ITILE OF INVENTION: Methods
FILE REPERENCE: 228-US-NEWC2
CURRENT APPLICATION: NUMBER: US/09/724,566A
CURRENT FILING DATE: 2000-11-28
PRIOR FILING DATE: 2000-02-10
PRIOR FILING DATE: 1999-02-10
PRIOR FILING DATE: 1999-06-15
PRIOR FILING DATE: 1999-06-15
NUMBER OF SEQ ID NOS: 104
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 72
LENGTH: 14
TYPE: PRI
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APPLICANT: Tateuno, Gwen
APPLICANT: Tateuno, Gwen
APPLICANT: Wong, Shuwen
APPLICANT: Wong, Shuwen
APPLICANT: Wong, Shuwen
TITLE OF INVENTION: Beta-Secretase Enzyme Compositions and
TITLE OF INVENTION: Methods
FILE REFERENCE: 228-US-NEWCS
CURRENT FILING DATE: 2000-11-28
PRIOR FILING DATE: 2000-10-10
PRIOR FILING DATE: 1999-02-10
PRIOR FILING DATE: 1999-02-10
PRIOR FILING DATE: 1999-06-15
PRIOR FILING DATE: 1999-06-15
NUMBER OF SEQ ID NOS: 104
SOFFWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 4; Length 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
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LENGTH: 14

TYPE: PRT

ORGANISM: Artificial Sequence
FEATURE:

COTHER PRODUCTION: APP-derived fragment P10-P4'(D-V)
US-09-724-566A-97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OTHER INFORMATION: P10-P4'staD-V peptide inhibitor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              95.0%; Score 19; DB 100.0%; Pred. No. 48; tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE:
NAME/KEY: MOD_RES
LOCATION: 10
CATION: 10
OTHER INFORMATION: Xaa is statine moiety
US-09-724-566A-72
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 97, Application US/09724566A Patent No. 6627739
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Best Local Similarity 100.
Matches 4; Conservative
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; Sequence 3, Application US/08733825
; Patent No. 5837839
; GENERAL INFORMATION:
    APPLICANT: Toth Matthew J.
    TITLE OF INVENTION: Pytrophosphate Decarboxylase
    TITLE OF INVENTION: Pytrophosphate Decarboxylase
    NUMBER OF SEQUENCES:
    ADDRESSER: No. 5837839artis Patent and Trademark Department
    STREET: 59 Route 10
    CITY: East Hanover
    STRATE: New Jersey
    COUNTRY: USA
    COUNTRY: USA
    CONFUTER READABLE FORM:
    MEDIUM TYPE: FORM:
    COMPUTER READABLE FORM:
    COMPUTER PROBABLE FORM:
    COMPUTER PROBABLE FORM:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/733,825
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TITLE OF INVENTION: Isolation, Cloning and Expression of TITLE OF INVENTION: Isolation, Cloning and Expression of TITLE OF INVENTION: Transmembrane Water Channel Proteins NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS: ADDRESS: ADDRESSEE: Banner & Allegreti STREET: 1001 G Street, N.W.
CITY: Washington, D.C.
STRIE: D.C.
COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          95.0%; Score 19; DB 1; Length 35; 100.0%; Pred. No. 1.3e+02;
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KIDIUM TYPE: Floppy disk
COMPUTER: CADABLE FORM:

KEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/393,996A
FTLING DATE: 24-FEB-1995
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: POSOTSKe, LAUTENCE H.
REGISTRATION NUMBER: 1107.48633
FTELECOMMUNICATION INFORMATION:
TELECOMMUNICATION OF SORTION OF THE STATEMENT OF SORTION OF THE SORTION OF TH
                                                                 0; Mismatches
                                            OMBER: US/08/468,763
06-JUN-1995
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US-08-193-996A-1
Sequence 1, Application US/08393996A;
Patent No. 5856702;
GENERAL INFORMATION:
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TELEFAX: 202 508-9299
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 35 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 95.0
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY: linear;
MOLECULE TYPE: peptide
US-08-468-763-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; MOLECULE TYPE: peptide US-08-393-996A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: amino acid
STRANDEDNESS: si
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j Sequence 1, Application US/08468763

j Sequence 1, Application US/08468763

j Patent No. 5741671

j GENERAL INFORMATION:

APPLICANT: Agre, Peter C.

TITLE OF INVENTION: Isolation, Cloning and Expression of TITLE OF INVENTION: Transmembrane Water Channel Proteins NUMBER OF SEQUENCES: 19

CORRESPONDENCE ADDRESS:

ADDRESSEE: Banner & Allegretti

STREET: 1001 G Street, N.W.

CITY: Washington, D.C.

STATE: D.C.

COUNTRY: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 35;
                                                                                                                                                                                                                                                                           ADDKESSEE: SIM & MCHRINEY
STREET: 6th Floor, 330 Unviersity Avenue
CITY: Toronto
STATE: Ontario
COUNTRY: Canada
ZIP: M5G 1R7
COMPUTER REABABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM:
PC-DOS/NS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/487,890A
FILING DATE: 07-UN-1993
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/175,116
FILING DATE: US-DEC-1993
ATTORNEY/AGENT INFORMATION:
NAMM: STEWART INFORMATION:
NAMM: STEWART NUMBER: US 08/148,968
FILING DATE: US-NOV-1993
ATTORNEY/AGENT INFORMATION:
NAMM: STEWART NUMBER: US 08-NOV-1993
REPERBRICE/POCKET NUMBER: 1338-466 MIS:jb
TEBECOMMUNICATION INFORMATION:
APPLICANT: Yang, Yan-Ping
APPLICANT: Murdin, Andrew
APPLICANT: Klein, Michel
TITLE OF INVENTION: Transferrin Receptor Genes
NUMBER OF SEQUENCES: 147
CORRESPONDENCE ADDRESS:
SIDERESSES: SIM & MONTH.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
BEATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1.3e+02;
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INFORMATION FOR SEQ ID NO: 6
SEQUENCE CHARACTERISTICS:
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Matches 4; Conservative
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STRANDEDNESS: single
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MEDIUM TYPE: Floppy
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TOPOLOGY:
US-08-487-890A-69
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, TOPOLOGY: linear
US-08-337-483-69
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US-08-478-373-69
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95.0%; Score 19; DB 2; Length 35; 100.0%; Pred. No. 1.3e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SIREBLING CONTRICTORD CONTRICTORD COURTY: Canada
ZIP: MAGG IR7
ZOMPUTER READABLE FORM:
MEDIUM TYPE: Riopy disk
COMPUTER: IBM PC compatible
SPECIATION NUMBER: US/08/478,435
FILING DATE: 07-UN-1994
CLASSIFICATION NUMBER: US 08/175,116
FILING APPLICATION HOWER: US 08/175,116
FILING APPLICATION NUMBER: US 08/148,968
FILING APPLICATION NUMBER: US 08/149,968
FILING CANTON NUMBER: U
                                                                                                                                                                                                                                                                                                                       US-081-18-69
Sequence 69, Application US/08478435
Sequence 69, Application US/08478435
Sequence 69, Application US/08478435
Sequence 69, Application US/08478435
Sequence 69, Application:
APPLICANT: Loosmore, Sheena
APPLICANT: Gray-Owen, Scott
APPLICANT: Chong, Pele
APPLICANT: Gray-Owen, Scott
APPLICANT: Wang, Yan-Ping
APPLICANT: Klein, Michel
TITLE OF INVENTION: Transferrin Receptor Genes
NUMBER OF SEQUENCES: 147
CORRESPONDENCE ADDRESS:
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100.0%; Pred. No. 1...
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STREET: Suite 701, 330 University Avenue
CITY: Toronto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 35 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                   Best Local Similarity 100,
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14 VAEF 17
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                                                                                                                                     2 VAEF 5
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   Query Match
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Length 35;
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GENERAL INCOMPATION:
APPLICANT: Horsens, Robin
APPLICANT: Schryvers, Anthony
APPLICANT: Schryvers, Anthony
APPLICANT: Chong, Pele
APPLICANT: Chang, Pele
APPLICANT: Yang, Yan-Ping
APPLICANT: Widin, Michel
TITLE OF INVENTION: Transferrin Receptor Genes
NUMBER OF SEQUENCES: 160
CORRESPONDENCES: 160
CORRESPONDENCES: 160
CORRESPONDENCES: 160
COUNTRY: Canada
TIT: MGG 1R7
CONDITY: Conada
CONTRY: Canada
CONPUTER: FLOPPY disk
MEDIUM TYPE: FloPPY disk
COMPUTER: Patentin Release #1.0, Version #1.25
CORPUTER: Patentin Release #1.0, Version #1.25
CORPUTENT APPLICATION NUMBER: US/08/483,577A
FILING DATE: 07-JUN-1995
CLASSIPICATION NUMBER: US 08/337,483
PRICKATION NUMBER: US 08/337,483
      OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA: US/08/474,671
FILING DATE: 07-JUN-1995
                                                                                                                               PILING DATE: 07-JUN-1995
CLASSIFICATION: 530
PRICR APPLICATION: 530
PRICR APPLICATION DATE:
APPLICATION NUMBER: US 08/337,483
FILING DATE: 08-NOV-1994
CLASSIFICATION DATA:
APPLICATION NUMBER: US 08/175,116
PRICR APPLICATION DATA:
APPLICATION NUMBER: US 08/148,968
PRICR APPLICATION DATA:
APPLICATION NUMBER: US 08/148,968
PRICR APPLICATION NUMBER: US 08/148,968
PRICR APPLICATION NUMBER: 24,973
REFERENCE/DOCKET NUMBER: 24,973
REFERENCE/DOCKET NUMBER: 1038-465 MIS:VG
TELECOMMUNICATION INFORMATION:
TELEPAN: (416) 595-1155
TELEPAN: (416) 595-1156
TELEPAN: 135 amilio acida
TEMBORIESS: single
TTELENTENTE AMILIO acida
TYPE: amino acid
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; Sequence 69, Application US/08483577A
; Patent No. 6015688
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Best Local Similarity 100.
Matches 4; Conservative
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STREET:
CITY: Torontc
STATE: Ontario
COUNTRY: Canada
ZIP: MSC IR7
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: Date Floppy disk
COMPUTER: Ploppy disk
COMPUTER: Date Floppy disk
COMPUTER: Ploppy disk
COMPUTER: Date Flops MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US 08/37,483
FILING DATE: 08-NOV-1994
CLASSIFICATION NUMBER: US 08/37,483
FILING DATE: 29-DEC-1993
FRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/175,116
FILING DATE: 29-DEC-1993
FRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/175,116
FILING DATE: 08-NOV-1994
FILING DATE: 08-NOV-1993
FRIOR APPLICATION NUMBER: 24,973
FRIENDES STEWARTION NUMBER: 24,973
FREFERENCE/DOCKET NUMBER: 34,973
F
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APPLICANT: Loosmore, Sheena
APPLICANT: Harkness, Robin
APPLICANT: Schryvers, Anthony
APPLICANT: Chong, Pele
APPLICANT: Yang, Yan-Ping
APPLICANT: Yang, Yan-Ping
APPLICANT: Mixfin, Andrew
APPLICANT: Mixfin, Andrew
APPLICANT: Mixfin, Andrew
APPLICANT: Mixfin, Mixfel
TITLE OF INVENTION: Transferrin Receptor Genes
NUMBER OF SEQUENCES: 147
CORRESPONDENCE ADDRESS:
ADDRESSEE: Sim & McBurney
STREET: Suite 701, 330 University Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 69, Application US/08474671; Patent No. 6008326; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET: Suite 701, 330 Universignation of CITY: Toronto STATE: Ontario COUNTX: Canada ZIP: MSG 1R7
COMPUTER READABLE FORM: MEDIUM TYPE: FIOPPY disk COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    14 VAEF 17
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Gaps

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GENERAL INFORMATION:

APPLICANT: LOOSENCE, Sheena M
APPLICANT: CONTRAINES, Robin E
APPLICANT: Schryvers, Anthony B
APPLICANT: Schryvers, Anthony B
APPLICANT: Gray-Owen, Scott
APPLICANT: Gray-Owen, Scott
APPLICANT: Klein, Michal H
TITLE OF INVENTION: HARNOPHILUS TRANSFERRIN RECEPTOR GENES
NUMBER OF SEQUENCES: 147
CORRESPONDENCE ADDRESS: 147
CORRESPONDENCE ADDRESS: 147
CORRESPONDENCE ADDRESS: 147
CORRESPONDENCE ADDRESS: 147
COUNTRY: Contact Compatible FORM:
MEGIST CONTRY: Tended ADDRESS: 140
CONTRY: Torony 330 University Avenue
CITY: Torony 180
STATE: Ontario
CONTRY: Contact Compatible FORM:
MEGIST READABLE PORM:
MEGIST READABLE FORM:
MEGIST READABLE PORM:
MEGIST READABLE POR
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Patent No. 6358727
GENERAL INFORMATION:
FILING DATE: 08-NOV-1993
ATTORNEY/AGENT INFORMATION:
NAME: Stewart, Michael I
REGISTRATION NUMBER: 24,973
REFERENCE/DOCKET NUMBER: 1038-
TELECHONIC (ATTON INFORMATION: TELECHONE: (416) 595-1163
INFORMATION FOR SEQ ID NO: 69: SEQUENCE CHARACTERISTICS:
LENGTH: 35 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
STRANDEDNESS: si
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 69, Application US/08897438

Sequence 69, Application US/08897438

Patent No. 626206

GENERAL INFORMATION:

APPLICANT: Loosmore, Sheena
APPLICANT: Harkness, Robin
APPLICANT: Chaybers, Anthony
APPLICANT: Chaybers, Anthony
APPLICANT: Chaybers, Anthony
APPLICANT: Wardin, Anche
APPLICANT: Gray-Owen, Scott
APPLICANT: Gray-Owen, Scott
APPLICANT: Gray-Owen, Scott
APPLICANT: Charte
CORRESPONDENCE ADDRESS:
ADDRESSEE: Sim & McBurney
STREET: 6th Floor, 330 University Avenue
CITY: Toronto
COUNTRY: Canada
ZIP: MGG IR7
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM:
COMPUTER: Datentin Release #1.0, Version #1.25
CURRENT APPLICATION NUMBER: US/08/897,438
FILING DARIE:
FILING TARESTERMENT.
                                                                                                                                    PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 08/148,968
FILING DATE: 08-NOV.1993
ATTORNEY/AGENT INFORMATION:

NAME: Stewart, Michael I
REGISTRATION NUMBER: 24,973
REFERENCE/DOCKET NUMBER: 24,973
REFERENCE/DOCKET NUMBER: 1038-511
TELECOMMUNICATION INFORMATION:
TELEFAX: (416) 595-1155
TELEFAX: (416) 595-1163
INFORMATION FOR SEQ ID NO: 69:
SEQUENCE CHARACTERISTICS:
LENGTH: 35 amino acids
TYDE: amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION UNBER: US 08/483,577
FILING DATE: 07-UNN-1995
PRIOR APPLICATION NUMBER: US 08/337,483
FILING DATE: 08-NOV-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/375,116
FILING DATE: 29-DEC-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/175,116
APPLICATION NUMBER: US 08/175,116
APPLICATION NUMBER: US 08/148,968
       FILING DATE: 08-NOV-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/175,116
FILING DATE: 29-DEC-1993
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14 VAEF 17
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US-09-489-039A-13555
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
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                                                                                                        0; Gaps
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     Length 35;
                                                                                                   0; Indels
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STREET: 6th Floor, 330 Unviersity Avenue
CITY: Toronto
STATE: 0th Floor, 330 Unviersity Avenue
CITY: Toronto
STATE: 0th Floor, 330 Unviersity Avenue
CITY: Canada
ZIP: MSG 1N2
COMPUTER READABLE FORM:
MEDIUM TYBE: Flopy disk
COMPUTER: Patentin Release #1.0, Version #1.25
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION NUMBER: US/08/649,518
FILING DATE: 17-MAY-1996
CLASSIFICATION NUMBER: US 08/43,577
FILING DATE: 08-NOY-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/43,577
FILING DATE: 07-UNN-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/175,116
FILING DATE: 07-UNN-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/148,968
FILING DATE: 07-UNN-1993
ATTORNEY/AGENT INFORMATION:
REGISTRATION NUMBER: US 08/148,968
FILING DATE: 08-NOY-1993
ATTORNEY/AGENT INFORMATION:
REGISTRATION NUMBER: US 08/148,968
FILING DATE: 08-NOY-1993
ATTORNEY/AGENT INFORMATION:
TELEFRAX: (416) 595-1165
INFORMATION FOR EQ ID NO: 69:
SEGIENCE CHARACTERISTICS:
LENGTH: 35 amino acids
INFORMATION CONTAINS
INFORMATION CONTAINS
ILENGTH: 35 amino acids
ITYPE: amino acids
ITYPE: amino acids
INFORMATION CONTAINS
INFORMATION 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Loosmore, Sheena
APPLICANT: Harkness, Robin
APPLICANT: Gray-Owen, Anthony
APPLICANT: Chong, Pele
APPLICANT: Gray-Owen, Scott
APPLICANT: Wang, Yang, Yan
Query Match

95.0%; Score 19; DB 4; Le
Best Local Similarity 100.0%; Pred. No. 1.3e+02;
Matches 4; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 69, Application US/08649518
Patent No. 6361779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; STRANDEDNESS: Single
; TOPOLOGY: linear
US-08-649-518-69
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Best Local Similarity
Matches 4; Conserva
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                                                                                                                                                                                                                 2 VABF 5
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SQUARENT LINEARATION:
APPLICANT: Gary Breton et. al
APPLICANT: Gary Breton et. al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
CURRENT FILING DATE: 2709.2004001
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 14342
SEQ ID NO 13555
LENGTH: 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
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Sequence 80, Application US/09393634

Sequence 80, Application US/09393634

Patent No. 6558910

GENERAL INFORMATION:

APPLICANT: Zuker, Jon Elliot.

APPLICANT: Adder, Jon Elliot.

APPLICANT: Hoon, Mark

APPLICANT: Hoon, Mark

APPLICANT: The Regents of the University of California

APPLICANT: The Regents of the University of Maerica

APPLICANT: The Government of the University of the

APPLICANT: Bepartment of Health and Human Services

IILE OF INVENTION: SF a No. 6558910el Family of Taste Receptors

FILE REFERENCE: 023078-098000US

CURRENT FILING DATE: 1999-09-10

NUMBER OF SEQ ID NOS: 92

SOFTWARE: PatentIn Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 69;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.0%; Pred. No. 2.6e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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US-09-328-352-7111
; Sequence 7111, Application US/09328352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; TYPE: PRT
; ORGANISM: Klebsiella pneumoniae
US-09-489-039A-13555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; FEATURE;
; OTHER INFORMATION: human GR24
US-09-393-634-80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 100...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Homo sapiens
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Gaps

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APPLICANT: Bunkers, Greg J.
APPLICANT: Liang, Jihong
APPLICANT: Liang, Jihong
APPLICANT: Liang, Jihong
APPLICANT: Mittanck, Cindy A.
APPLICANT: Mu, Yonnie S.
TITLE OF INVENTION Anti-fungal Proteins and Methods for Their Use
FILE REPERRNCE: 38-21(15.35)B
CURRENT APPLICATION NUMBER: US/09/732,210
CURRENT APPLICATION NUMBER: US 60/169,513
PRIOR APPLICATION NUMBER: US 60/169,513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 95.0%; Score 19; DB 4; Length 74; Best Local Similarity 100.0%; Pred. No. 2.8e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                        GENERAL INCORMATION:
GENERAL INCORMATION:
APPLICANT: LA THANGUE NICHOLAS B.
APPLICANT: BERNARDS RENE
APPLICANT: HIJMANS, ELEANORE M.
TITLE OF INVENTION: TRANSCRIPTION FACTOR E2F-5
NUMBER OF SEQUENCES: 25
CORRESPONDENCE ADDRESS:
ADDRESSEE: NIXON & VANDERHYE P.C.
STREET: 1100 NORTH GLEBE ROAD
CITY: ARLINGTON
STATE: 1100 NORTH GLEBE ROAD
CITY: ARLINGTON
STATE: FLODBY disk
COMPUTER: LIM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: 1BM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: 13-AUG-1997
CLASSIFICATION: SAFE
ATTORNEY AGENT INFORMATION:
NAME: WILSON, MARY J
REBERRECE/DOCKET NUMBER: 620-22
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 816-4000
TELEFRAX: (703) 816-4100
INFORMATION FOR SEQ 1D NO: 10:
SENDENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5-09-732-210-1412
Sequence 1412, Application US/09732210
Patent No. 6573361
                                                                                                                                                                                                                                                                                               Sequence 10, Application US/08894139 Patent No. 6448376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: peptide US-08-894-139-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           linear
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                                                         2 VAEF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
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Patent No. 6562958

GENERAL INFORMATION:
APPLICANT: Gary L. Breton et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO ACINETOBACTER
TITLE OF INVENTION: BAUMANNI FOR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: GTC99-03PA
CURRENT PELICATION NUMBER: US/09/328,352
CURRENT FILING DATE: 1999-06-04
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Sequence 10, Application US/08321071A

Sequence 10, Application US/08321071A

Sequence 10, Application US/08321071A

Sequence 10, Application

Sequence 10, Application

SENERAL INFORMATION:

APPLICANT:

TITLE OF INVENTION: OF USE THEREOF

NUMBER OF SEQUENCES: 31

CORRESPONDENCE ADDRESSS:

ADDRESSEE: Hale and Dorr

STREET: 1455 Pennsylvania Avenue, N.W.

CITY: Washington

STRTE: D.C.

ZIP: 20004

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

COMPUTER: 
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ouery Match 95.0%; Score 19; DB 4; Length 71; Best Local Similarity 100.0%; Pred. No. 2.6e+02; Matches 4; Conservative 0; Mismatches 0; Indels
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CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/321,071A

FILING DATE: 11-OCT-1994

PRIOR APPLICATION DATA:

APPLICATION DATA: US/08/321,071A

FILING DATE: 09-AUG-1995

FILING DATE: 09-AUG-1995

PRIOR APPLICATION DATA: 08-AUG-1995

PRIOR APPLICATION DATA: 109-AUG-1995

ATORING APPLICATION DATA: 109-AUG-1994

ATORING APPLICATION NUMBER: 08/287,427

FILING DATE: 09-AUG-1994

ATORING APPLICATION NUMBER: 109-AUG-1994

ATORING APPLICATION NUMBER: 32,073

REGISTRATION NUMBER: 32,073

REGISTRATION NUMBER: 104322.121CIP

TELECOMMUNICATION INFORMATION:

TELECOMMUNICATION INFORMATION:

TELECOMMUNICATION INFORMATION:

TELECOMMUNICATION INFORMATION:

TELECOMMUNICATION INFORMATION:

TELECOMMUNICATION INFORMATION:

TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT CORGANISM: Acinetobacter baumannii JS-09-328-352-7111
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 100.
Matches 4; Conservative
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STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY: linear MOLECULE TYPE: peptide US-08-321-071A-10
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linear
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US-08-464-517-8
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                                                                                                                                                                                                                                                                                                                                                      Sequence 12, Application US/07612674

Sequence 12, Application US/07612674

Patent No. 5658792

GENERAL INFORMATION:
APPLICANT: NUELL, WARK J.
APPLICANT: STEWART, DAVID A.
APPLICANT: STEWART, DAVID B.
TITLE OF INVENTION:
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
ADDRESSE: ADDRESSE:
ADDRESSE: ADDRESSE:
ADDRESSE: CUSHWAN, DARBY & CUSHWAN
STREET: 1100 NEW YORK AVENUE, N.W.
STREET: D.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY: USA

ZIF: 20005

COMPUTER READABLE FORM:
MEDILUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION NUMBER: US/07/612,674
FILING DATE: 19901114
CLASSIFICATION NUMBER: US/07/612,674
ATTORNEY/AGENT INFORMATION:
NRAME: SCOTY: WATSON T.
REGISTRATION NUMBER: 56,581
REFERENCE/DOCKET NUMBER: 56,83/82332
TELECOMMUNICATION INFORMATION:
TELEFAX: 202-82-0944
TELEFAX: 202-82-0944
TELEFAX: 202-82-0944
TELEFAX: 304-827 CUBH
INFORMATION POR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
TEMMORPHY OF SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
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Best Local Similarity 100.0%; Pred. No. 3.5e+02;
Matches 4; Conservative 0; Mismatches 0;
PRIOR APPLICATION NUMBER: US 60/169,340 PRIOR FILING DATE: 1999-12-07 NUMBER OF SEQ ID NOS: 1753 LENGTH: 88
                                                                                                                              ; ORGANISM: Haemophilus influenzae
US-09-732-210-1412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 93 amino acids
TYPE: AMINO ACID
STRANDEDNESS: single
TOPOLOGY: linear
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MOLECULE TYPE: peptide
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US-09-543-681A-5816
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Patent No. 6605709
GENERAL INPORANTION:
PAPLICANT GARY BESTON
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PROTEUS MIRABI
TITLE OF INVENTION: DIAGNOSTICS AND THERAPEUTICS
TITLE OF INVENTION: DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 2709.1002-001
CURRENT APPLICATION NUMBER: US/09/543,681A
CURRENT FILING DATE: 2000-04-05
PRIOR FILING DATE: 1999-04-09
NUMBER OF SEQ ID NOS: 8344
SEQ ID NO 5816
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APPLICANT: BEACH, David H.
TITLE OF INVENTION: D-TYPE CYCLIN AND USES RELATED THERETO
NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
ADDRESSE: LAHIVE & COCKFIELD
STREET: 60 State Street
CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                        95.0%; Score 19; DB 4; Length 98; 100.0%; Pred. No. 3.7e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
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PRIOR APPLICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 007/963,308
FILING DATE: 16-CCT-1992
PRIOR APPLICATION NUMBER: US 07/888,178
FILING DATE: 26-MAY-1992
PRIOR APPLICATION NUMBER: US 07/701,514
APPLICATION NUMBER: US 07/701,514
ATTORNEY/AGENT INFORMATION:
NAME: MALTHEW P. Vincent
NAME: MALTHEW P. Vincent
REFERENCE/DOCKET NUMBER: 36,709
RECISTRATION NUMBER: 36,709
RECISTRATION NUMBER: 36,709
TELEPHONE: (617) 227-7400
TELEPHONE: (617) 227-7400
TELEPHONE: (617) 227-7400
TELEPHONE: (617) 227-7400
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STAIL.
COUNTRY: USA
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
Sequence 5816, Application US/09543681A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: ASCII(text)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/464,517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 8, Application US/08464517
Patent No. 5869640
                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT; ORGANISM: Proteus mirabilis US-09-543-681A-5816
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TYPE: amino acid
STRANDEDNESS: single
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Matches 4; Conservative
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GENERAL INFORMATION:
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1 Sequence 8, Application US/08246361A
1 Sequence 8, Application US/08246361A
1 Partent No. 59968B.
1 GENERAL INFORMATION:
1 APPLICANT: BEACH, David H.
1 TITLE OF INVENTION: D-TYPE CYCLIN AND USES RELATED THERETO
1 TITLE OF INVENTION: D-TYPE CYCLIN AND USES RELATED THERETO
2 CORRESPONDENCES: 5
3 CORRESPONDENCES: 1AHIVE & COCKFIELD
3 STREET: 60 State Street
4 CITY: Boston
5 CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 100;
                                                                        Length 100;
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                                                                     95.0%; Score 19; DB 2; L 100.0%; Pred. No. 3.8e+02;
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                                                                                                                                      0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTYR: USAS

ZIP: 02109

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCIT (text)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/246,361A
FILING DATE: 19-MAY-1994
CLASSIFICATION: WUMBER: US 07/963,308
FILING DATE: 16-CCT-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/963,308
FILING DATE: 16-CCT-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/01,514
FILING DATE: 26-MAY-1992
APPLICATION NUMBER: US 07/701,514
FILING DATE: 16-MAY-1991
ATTORNEY/AGENT INFORMATION:
NAME: MATCHAW P. VINCENT
REGISTRATION NUMBER: 36.709
REFERENCE/DOCKET NUMBER: 36.709
REFERENCE/DOCKET NUMBER: 36.709
REFERENCE/DOCKET NUMBER: 36.709
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION SYSTEMATION:
TO MUNICATION SYSTEMATION SYSTEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100.0%;
Matches 4; Conservative 0
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TYPE: amino acid
                                                                     Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 , MOLECULE TYPE: peptide US-08-246-361A-8
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USA
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       JS-08-464-517-8
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Sequence 8, Application US/08463772 Patent No. 6066501

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Gaps
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APPLICANT: BEACH, David H. TITLE OF INVENTION: D-TYPE CYCLIN AND USES RELATED THERETO NUMBER OF SEQUENCES: 50 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 100;
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                                                                                                                                                                                                                         GURRENT APPLICATION DATA:
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/463,772
FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION 135
PRIOR APPLICATION NUMBER: US 07/963,308
FILING DATE: 16-OCT-1992
APPLICATION NUMBER: US 07/888,178
FILING DATE: 26-MAY-1992
PRIOR APPLICATION NUMBER: US 07/701,514
FILING DATE: 16-MAY-1991
ATTORNEY/AGENT INFORMATION:
NAME: MATCHEW P. VINCENT
REGISTRATION NUMBER: 36,709
REFERENCE/DOCKET NUMBER: 36,709
REFERENCE/DOCKET NUMBER: 36,709
REFERENCE/DOCKET NUMBER: MII-004C
                                                                                                                                                                                               COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: ASCII(text)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INFORMATION: (617) 227-7400
TELEFAX: (617) 227-5941
INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
LENGTH: 100 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY:
                                                               ADDRESSE: LAHIVE & COCKFIELD STREET: 60 State Street CITY: Boston
                                                                                                                                                                COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: linear MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13 VAÈF 16
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Sequence 3612, Application US/09540236
Sequence 3612, Application US/09540236
Patent No. 6673910
GENERAL INFORMATION:
APPLICANT: 63ay L. Breton et al.
TITLE OF INVENTION: WUCLEIC ACID AND THERAPEUTICS
TITLE OF INVENTION: POR DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 2709-2005-001
CURRENT APPLICATION NUMBER: US/09/540,236
CURRENT FILING DATE: 2000-04-04
NUMBER OF SEQ ID NOS: 3840
ELOGTH: 103
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Patent No. 5869640

GENERAL INFORMATION:
APPLICANT: BEACH, David H.
TITLE OF INVENTION: D-TYPE CYCLIN AND USES RELATED THERETO NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        h Similarity 100.0%; Score 19; DB 4; Length 103; Similarity 100.0%; Pred. No. 3.9e+02; 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                          Length 101;
                                                                                                                                          95.0%; Score 19; DB 2; I 100.0%; Pred. No. 3.8e+02;
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/963,308
FILING DATE: 16-0CT-1992
APPLICATION WUMBER: US 07/888,178
FILING DATE: 26-MAY-1992
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: ISM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII(text)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/464,517
                                                                                                                         Query Match
Best Local Similarity 100.
  protein
no

; TYPE: PRT.
; ORGANISM: M.catarrhalis
US-09-540-236-3612

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Best Local Similarity
Matches 4; Conserv
                 HYPOTHETICAL: no

ANTI-SENSE: no

FRAGMENT TYPE: ir

ORIGINAL SURCE:
US-08-580-988A-21
                                                                                                                                                                                                                                                               70 VAEF 73
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COUNTRY: USA
  DESCRIPTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     02109
                                                                                                                                                                                                                                                                                                                                                 US-09-540-236-3612
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US-08-464-517-25
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Sequence 21, Application US/08580388A
Sequence 21, Application US/08580388A
Patent No. 2856161
GENERAL INFORMATION:
APPLICANT: Aggarwal et al.
TITLE OF INVENTION: Receptor-1-Associated Protein Kinase And Methods TITLE OF INVENTION: Por Its Use
NUMBER OF SEQUENCES: 27
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Benjamin A. Adler
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                               Length 100;
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Pred. No. 3.8e+02;
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FILLING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Benjamin Aaron Adler, Ph.D., J.D.
RECISTRATION WUMBER: 35,423
REFERENCE/DOCKET WUMBER: D5721CIP2
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                95.0%; bcc.
V 100.0%; Pred. No. ...
O; Mismatches
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ZIP: 77071

COMPUTER READABLE FORM:
MEDIUM TYPE: 1.44 Mb floppy disk
COMPUTER: Apple Macintosh
SOFTWARE: Microsoft Word for Macintosh
SOFTWARE: Microsoft Word for Macintosh
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/580,988A
FILING DATE: January 3, 1996
CLASSIFICATION: 424
PROR APPLICATION DATA:
APPLICATION NUMBER:
        PILLING DATE:
PRICATION:
PRIOR APPLICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/07/888,178
FILING DATE: 26-MAY-1992
ATTORNEY/AGBYI THOPOMATION:
NAME: Granahan, Patricia
REGISTRATION NUMBER: 32,227
REFERENCE/DOCKET NUMBER: 32,227
REFERENCE/DOCKET NUMBER: CSHL91-02A
TELEPANICATION INFORMATION:
TELEPANICATION SEQ. 10.861-6240
INFORMATION FOR SEQ. 10 NO: 8:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET: Dr. Benjamin A. Adler STREET: 8011 Candle Lane CITY: Houston STATE: Texas COUNTRY: USA
APPLICATION NUMBER: PCT/US93/05000 FILING DATE: 19930525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: 713-777-6908
INFORMATION FOR SEQ ID NO: 21:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 101 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                      LENGTH: 100 amino acids
TYPE: AMINO ACID
TOPOLOGY: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                              MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13 VAEF 16
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| Sequence 
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                                                                                                            Query Match

95.0%; Score 19; DB 2; Length 106;
Best Local Similarity 100.0%; Pred. No. 4e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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CLASSIFICATION: 435
PRIOR APPLICATION: 435
PRIOR APPLICATION DATE:
APPLICATION NUMBER: US 07/863,308
FILING DATE: 16-OCT-1992
APPLICATION NUMBER: US 07/888,178
FILING DATE: 26-MAX-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/701,514
FILING DATE: 16-MAY-1991
ATTOCNEY/AGENT INFORMATION:
NAME: MALTHEW P. VINCENT
REGISTRATION NUMBER: 36,709
REFERENCE/DOCKET NUMBER: MII-004C
TELECOMMUNICATION INFORMATION:
TELEPHONE: (517) 227-7400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: STATEM PC-DOS/MS-DOS
SOFTWARE: ASCII(text)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/463,772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 39
US-09-489-039A-8721
; Sequence 8721, Application US/09489039A
; Patent No. 6610836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 25, Application US/08463772 Patent No. 6066501
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INFORMATION FOR SEQ ID NO: 25:
SEQUENCE CHARACTERISTICS:
LIENGTH: 106 amino acids
TYPE: amino acid
STRANBENESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY: linear
MOLECULE TYPE: peptide
       MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                2 VAEF 5
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US-08-246-361A-25
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Sequence 25, Application US/08246361A

Patent No. 599852

GENERAL INFORMATION:

APPLICANT: BEACH, David H.

TITLE OF INVENTION: D-TYPE CYCLIN AND USES RELATED THERETO

TORRESPONDENCE ADDRESS:

ADDRESSEE: LAHIVE & COCKFIELD

STREET: 60 State Street

CITY: Boston

STATE: MA

COWPUTER: RADABLE FORM:

MEDIUM TYPE: ADDRESS:

COMPUTER: TRAPLICATION DATA:

APPLICATION NUMBER: US/08/246,361A

TILING DATE: 16-OT-1992

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 07/683,78

FILING DATE: 16-MAY-1991

FILING DATE: 16-MAY-1991

FILING DATE: 16-MAY-1991

FILING DATE: 16-MAY-1991

APPLICATION NUMBER: US 07/01,514

FILING DATE: 16-MAY-1991

APPLICATION NUMBER: US 07/01,514

FILING DATE: 16-MAY-1991

ATTORNEY AGAINT INFORMATION:

APPLICATION NUMBER: US 07/01,514

FILING DATE: 16-MAY-1991

ATTORNEY AGAINT INFORMATION:

APPLICATION NUMBER: US 07/01,514

FILING DATE: 16-MAY-1991

ATTORNEY AGAINT INFORMATION:

TELEFONMUNICATION INFORMATION:

TELEFONEY: (617) 227-5941

INFORMATION FOR SEQ ID NO: 25:

LENGTH: 106 anino acids

TYPE: anino acid

STRANDEDNESS: single

TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 95.0%; Score 19; DB 2; Length 106; Best Local Similarity 100.0%; Pred. No. 4e+02; Matches 4; Conservative 0; Mismatches 0; Indels
APPLICATION NUMBER: US 07/701,514
FILING DATE: 16-MAY-1991
ATTORNEY/AGENT INFORMATION:
NAME: Matchew P. Vincent
REGISTRATION NUMBER: 36,709
REPERENCE/DOCKET NUMBER: MII-004C
TELEPHONE: (617) 227-7400
TELEPHONE: (617) 227-7400
TELEPHONE: (617) 227-5941
INFORMATION FOR SEQ ID NO: 25:
SEQUENCE CHARACTERISTICS:
LENGTH: 106 amino acids
TYPE: amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY: linear
MOLECULE TYPE: peptide
S-08-464-517-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     66 VAEF 69
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Gaps

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Sequence 21614, Application US/09252991A
Sequence 21614, Application US/09252991A
Sequence 21614, Application US/09252991A
Sequence 21614, Application US/09252991A
Fatent No. 6511795
GENERAL INFORMATION:
TITLE OF INVENTION:
TI
                                                                                                                                           Sequence 9915, Application US/09489039A
Patent No. 6510836
Patent No. MUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA TITLE OF INVENTION: NUCLEIC ACID AND THERAPEUTICS
FILE REFERENCE: 2709.2004001
CURRENT FILING DATE: 2000-01-27
PRIOR PAPLICATION NUMBER: US 60/117,747
PRIOR PAPLICATION NUMBER: US 60/117,747
PRIOR PAPLICATION NUMBER: 1999-01-29
NUMBER OF SEQ ID NOS: 14342
SEQ ID NO 9915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 05-09-489-039A-7200

| Sequence 7200, Application US/09489039A
| Sequence 7200, Application US/09489039A
| Patent No. 6610336
| GENERAL INFORMATION:
| APPLICANT GATY Breton et. al
| TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
| TITLE OF INVENTION: PNEUMONIAE FOR DIAGNOSTICS AND THERAPEUTICS
| FILE REPERBRUCE: 2709.200401
| CURRENT APPLICATION NUMBER: US/09/489,039A
| CURRENT FILING DAIE: 2000-01-27
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
95.0%; Score 19; DB 4; Length 115
Best Local Similarity 100.0%; Pred. No. 4.46+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        95.0%; Score 19; DB 4; Le: 100.0%; Pred. No. 4.7e+02; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ) ORGANISM: Pseudomonas aeruginosa
US-09-252-991A-21614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Klebsiella pneumoniae US-09-489-039A-9915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    50 VAEF 53
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APPLICANT: Gary Breton et. al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: PNEUMONIAE FOR DIAGNOSTICS AND THERAPEUTICS
TITLE OF INVENTION: PNEUMONIAE FOR DIAGNOSTICS AND THERAPEUTICS
TITLE OF INVENTION: 2709, 2004001
CURRENT APPLICATION NUMBER: US/09/489,039A
CURRENT APPLICATION NUMBER: US 60/117,747
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 14342
SEG ID NO 8721
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GENERAL INFORMATION:
APPLICANT: MITOTIX
TITLE OF INVENTION:
TITLE OF INVENTION:
APPLICANT: MITOTIX
TITLE OF INVENTION:
APPLICANTE ADDRESS:
CORRESPONDENCE: 42
CORRESPONDENCE: 42
COUNTY: Lexington
STREET: Two Militia Drive
CITY: Lexington
STREET: Two Militia Drive
CITY: Lexington
STREET: Propy disk
COMPUTER READABLE FORM:
MEDIUM TYPE: Plopy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentln Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
PRICATION NUMBER: PCT/US93/05000
FILING DATE: 26-MX-1992
ATTORNEY/AGENT INFORMATION:
REGISTRATION NUMBER: 32-27
REBERRICE/DOCKET NUMBER: 32-27
REBERRICE/DOCKET NUMBER: 32-27
REBERRICE/TON NUMBER: 32-27
REBERRICE/TON NUMBER: 32-32
REBERRICE/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match

95.0%; Score 19; DB 5; Length 106;
Best Local Similarity 100.0%; Pred. No. 4e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match

95.0%; Score 19; DB 4; Length 106;

Best Local Similarity 100.0%; Pred. No. 4e+02;

Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; TYPE: PRT
; ORGANISM: Klebsiella pneumoniae
US-09-489-039A-8721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 VAEF 5
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APPLICANT: Briles, David E.
APPLICANT: Briles, David E.
APPLICANT: McDaniel, Larry S.
APPLICANT: McDaniel, Larry S.
APPLICANT: McDaniel, Edwin
APPLICANT: Wother, Janet
APPLICANT: Statlo, Edwin
APPLICANT: Pyther, Janet
APPLICANT: Pyther, Janet
APPLICANT: Pyther, Janet
APPLICANT: Pyther, Janet
APPLICANT: Brooks-Walter, Alexis
TITLE OF INVENTION: Thereof, Expression Products
TITLE OF INVENTION: Thereform, and Uses of Such Genes,
TITLE OF INVENTION: Thereform, and Uses of Such Genes,
TITLE OF INVENTION: Portions and Products
TITLE OF INVENTION: Portions and Products
COUNTRY: Superior Countries, Morris & Safford, P.C.
STREET: 530 Fifth Avenue
CITY: New York
STREET: S10 Fifth Avenue
CITY: New York
STREET: New Yor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          95.0%; Score 19; DB 4; Length 129; 100.0%; Pred. No. 4.9e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                 Query Match
95.0%; Score 19; DB 4; Length 123;
Best Local Similarity 100.0%; Pred. No. 4.7e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
PRIOR APPLICATION NUMBER: US 60/117,747
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 14342
SEQ ID NO 7200
LENGTH: 123
TYPE: PRT
CRGANISM: KIebsiella pneumoniae
S-09-489-039A-7200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 53, Application US/08529055 Patent No. 6592876
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Best Local Similarity 100.0
Matches 4; Conservative
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Sequence 167, Application US/09198452A
Sequence 167, Application US/09198452A
Patent No. 6559294
GENERAL INFORMATION:
APPLICANT: Griffais, F
TITLE OF INVENTION: thereof and uses thereof, in particular for the diagnosis, prevering INVENTION: and treatment of infection
TITLE OF INVENTION: and treatment of infection
TITLE OF INVENTION: and treatment of infection
CURRENT APPLICATION NUMBER: US/09/198,452A
NUMBER OF SEQ ID NOS: 6849
SEQ ID NO 167
LENGTH: 145
ASSULT 43

Sequence 12835, Application US/09489039A

Sequence 12835, Application US/09489039A

Sequence 12835, Application US/09489039A

PREMERAL INFORMATION:
APPLICANT: Gary Breton et. al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: PNEUDWONIAE FOR DIAGNOSTICS AND THERAPEUTICS
CURRENT PREJICATION NUMBER: US/09/489,039A

CURRENT FILING DATE: 2000-01-27

PRIOR APPLICATION NUMBER: US 60/117,747

PRIOR PILING DATE: 1999-01-29

NUMBER 09 SEQ ID NOS: 14342

SEQ ID NO 12835

LENGTH: 143
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US-09-134-000C-4292

US-09-134-000C-4292

Sequence 4292, Application US/09134000C

Patent No. 6617156

GENERAL INFORMATION:

APPLICANT: LYND DOUGETE-Stamm et al

APPLICANT: LYND DOUGETE-Stamm et al

APPLICANT: LYND DOUGETE-STAMM AMINO ACID SEQUENCES RELATING TO

TITLE OF INVENTION: ENTEROCOCCUS FAECALIS FOR DIAGNOSTICS AND THERAPEUTICS

FILE REFERENT APPLICATION NUMBER: US 09/134,000C

CURRENT FILING DATE: 1998-08-13

PRIOR APPLICATION NUMBER: US 60/055,778

PRIOR FILING DATE: 1997-08-15

NUMBER OF SEQ ID NOS: 6812

SOFTWARE: PatentIn version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                95.0%; Score 19; DB 4; Length 145; 100.0%; Pred. No. 5.6e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 95.0%; Score 19; DB 4; Length 143; Best Local Similarity 100.0%; Pred. No. 5.5e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT; ORGANISM: Klebsiella pneumoniae
US-09-489-039A-12835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT; Chlamydia pneumoniae; ORGANISM: Chlamydia pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.
Matches 4; Conservative
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US-09-198-452A-167
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STREET: 1100 New York Avenue, N.W., Suite 600 CITY: Washington
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NAME: MCPHAIL, DONALD R.
REGISTRATION NUMBER: 35,811
REFERENCE/DOCKET NUMBER: 0609.4070000
TELECOMMUNICATION INFORMATION:
                                                                                                            ZIP: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (202) 371-2600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEPHONE: (202) 371-266
TELEFAX: (202) 371-2540
INFORMATION FOR SEQ ID NO: 3
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 100..
'.a 4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DC
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                                                                                               USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 50
US-07-667-711B-3
                                                                                             COUNTRY:
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                                                                                                                                                                                                                                                                                                                 Sequence 3, Application US/08460694;
Patent No. 585865;
GENERAL INFORMATION:
APPLICANT: Arnold, Andrew
TITLE OF INVENTION: PRADI Cyclin and its cDNA
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
ADDRESSE: STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
STREET: 1100 New York Avenue, N.W., Suite 600
CITY: Washington
                                                                                                                              Query Match 95.0%; Score 19; DB 4; Length 145; Best Local Similarity 100.0%; Pred. No. 5.6e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.0%; Pred. No. 5.8e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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APPLICATION NUMBER: US/08/460,694
FILING DATE: 02-JUN-1995
CLASSIFICATION: 435
ATCRNEY/AGENT INFORMATION:
NAME: MCCONALNY, Evelyn H.
REGISTARION NUMBER: 35,279
TREJECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEFAX: 202-371-2600
TELEFAX: 202-371-2600
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Patent No. 6107541
GENERAL INFORMATION:
APPLICANT: Arnold, Andrew
TITLE OF INVENTION: PRAD! Cyclin and its CDNA
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY: USA
ZIP: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                          TYPE: PRT ; ORGANISM: Enterococcus faecalis US-09-134-000C-4292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 150 amino acids
TYPE: amino acid
STRANDEDNESS: not relevant
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             not relevant
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                    SEQ ID NO 4292
LENGTH: 145
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 3. Application US/0766711B
Patent No. 6110700
GENERAL INFORMATION:
APPLICANT: ARNOLD, ANDREW
TITLE OF INFORMATION:
RUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
ADDRESSED: STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
STREET: 1100 NEW YORK AVE., NW, SUITE 600
CITY: WASHINGTON
CURRENT APPLICATION DATA:
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/460,744
FILING DATE: US/08/460,744
FILING DATE: US/08/460,744
FILING DATE: US/08/1995
CLASSIFICATION: 435
ATTONNEY/AGENT INFORMATION:
NAME: MCCONALIVY, EVELYN H.
REGISTRATION NUMBER: 35,279
REFERENCE/POCKET NUMBER: 35,279
REFERENCE/POCKET NUMBER: 35,279
TELEPRATION INFORMATION:
TELEPRATICATION INFORMATION:
TELEPRATICATION: 3:
SEQUENCE CRARACTERISTICS:
LENGTH: 150 amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: amino acids
TYPE: ATTONNESS: not relevant
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TYPE: PRT
ORGANISM: Pseudomonas aeruginosa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 100.
Matches 4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100 VAEF 103
             101 VAEF 104
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Sequence 4087, Application US/09134000C

Sequence 4087, Application US/09134000C

Batent No. 6617156

GENERAL INFORMATION:

APPLICANT: Lynn Doucette-Stamm et al

TITLE OF INVENTION: BUTEROCOCCUS FAECALIS FOR DIAGNOSTICS AND THERAPEUTICS

TITLE OF INVENTION: BUTEROCOCCUS FAECALIS FOR DIAGNOSTICS AND THERAPEUTICS

FILE REPERBENCE: 032796-032

CURRENT APPLICATION NUMBER: US/09/134,000C

CURRENT FILING DATE: 1998-08-13

PRIOR FILING DATE: 1999-08-15

NUMBER OF SEQ ID NOS: 6812

SOFTWARE: PatentIn version 3.1

SOFTWARE: PatentIn version 3.1

SEQ ID NO 4087

TYPE: PRT

ORGANISM: Enterococcus faecalis

11S-09-134-000f-4087
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                                                                                                                                                                                                                                                                                                                                                  US-08-679-493A-208
; Sequence 208, Application US/08679493A
; Sequence 208, Application US/08679493A
; Patent No. 6303258
; GENERAL INTORMATION:
APPLICANT: Taylor, Ethan W.
TITLE OF INVENTION: SELENOPROTEINS, CODING SEQUENCES AND METHODS
; FILE REFERENCE: 55-95
; CURRENT APPLICATION NUMBER: US/08/679,493A
; CURRENT FILING DATE: 1995-07-12
; PRIOR PILING DATE: 1995-07-14
; PRIOR PILING DATE: 1995-07-14
; PRIOR FILING DATE: 1995-09-01
; NUMBER OF SEQ ID NOS: 216
; SOFTHARE: Patentin Ver. 2.0
; SEG ID NO 208
LENGTH: 152
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95.0%; Score 19; DB 4; Length 153;
Best Local Similarity 100.0%; Pred. No. 5.9e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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                                                                                                                                              Length 150;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
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100.0%; Pred. No. 5.9e+02;
iive 0; Mismatches 0;
                                                                                                                                              Score 19; DB 3; L
Pred. No. 5.8e+02;
                                                                                                                                                Query Match
Best Local Similarity 100.0%; Pred. No. 5.8
Matches 4; Conservative 0; Mismatches
LENGTH: 150 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: not relevant
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
ORGANISM: blueshark
                                                                                                                                                                                                                                                                            66 VAEF 69
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                                                                                                          US-07-667-711B-3
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USECULE 2091A-20805

1 Sequence 20805, Application US/09252991A

2 Sequence 20805, Application US/09252991A

3 Patent No. 6551795

3 FALL NORMANTION:

4 APPLICANT:

APPLICANT:

APPLICANT:

7 TILE OF INVENTION:

7 TILE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
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Sequence 203, Application US/09370838

Patent No. 644442

GENERAL INFORMATION:
APPLICANT: Reed, Steven G.
APPLICANT: Lodes, Michael J.
APPLICANT: Accrist, Heathel J.
APPLICANT: Secrist, Heathel J.
APPLICANT: Secrist, Heathel J.
APPLICANT: Secrist, Heathel J.
APPLICANT: Mohamath, Roadoh
TITLE OF INVENTION: COMPOUNDS FOR THERR USE
FILE REFERENCE: 210121.475C1
FILE REFERENCE: 210121.475C1
FILE REPERENCE: 210121.
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100.0%; Pred. No. 6e+02;
tive 0; Mismatches 0
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95.0%; Score 19; DB
Best Local Similarity 100.0%; Pred. No. 6.3
Matches 4; Conservative 0; Mismatches
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US-09-540-236-2222
Sequence 2222, Application US/09540236
; Patent No. 6673910
; GENERAL INFORMATION:
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Sequence 16, Application US/08471057

Patent No. 6015687

GENERAL INFORMATION:
APPLICANT: KIEFER, MICHAEL C.
APPLICANT: BARR, PHILIP J.
TITLE OF INVENTION: NOVEL APPTOSIS-MODULATING PROTEINS, DNA
TITLE OF INVENTION: ENCODING THE PROTEINS AND METHODS OF USE THEREOF
NUMBER OF SEQUENCES: 22
CORRESPONDENCE ADDRESS:
ADDRESSEE: MORRISON & FOERSTER
STREET: 755 Page Mill Road
CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
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                                                                                                                                             US-08-690-095-3

Sequence 3, Application US/08690095

Sequence 3, Application US/08690095

Patent No. 579264

APPLICANT: Hillman, Jennifer L.

APPLICANT: Al-Young, Janice

APPLICANT: Goli, Surya K.

TITLE OF INVENTION: NOVEL HUMAN MACROPHAGE ANTIGEN

NUMBER OF SEQUENCES:

CORRESPONDENCE ADDRESS:

ADDRESSEE: Incyte Pharmaceuticals, Inc.

STREET: 3174 Porter Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER REALDLE CONTULE TO COMPUTER: Diskette COMPUTER: IBM Compatible OPERATING SYSTEM: DOS SOFTWARE: FASTSEQ VERSION 1.5 CURRENT APPLICATION NUMBER: US/08/690,095 FILLOATION NUMBER: US/08/690,095 FILLOATION NUMBER: Billings, Lucy J. REGISTATION NUMBER: 36,749 REPERROLE/DOCKET NUMBER: PF-0110 US TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PF-0110 US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 172 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: 415-845-4166
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 95.0
Best Local Similarity 100.
Matches 4; Conservative
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MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: U.S.
ZIP: 94304
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LIBRARY: GenBank
CLONE: 293274
                                                                                                                                                                                                                                                                                                                                                                                          STREET: 3174 POR
CITY: Palo Alto
STATE: CA
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                                                              122 VAEF 125
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US-Q8-471-057-16
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APPLICANT: Gary L. Breton et al.

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO MORAXELLA CATAR
TITLE OF INVENTION: POR DIAGNOSTICS AND THERAPEUTICS
FILE REFRENCE: 2709-2005-001
CURRENT APPLICATION NUMBER: US/09/540,236
CURRENT FILING DATE: 2000-04-04
NUMBER OF SEQ ID NOS: 3840
SEQ ID NO 2222
LENGTH: 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT:
APPLICANT:
APPLICANT:
Barr, Philip J.
TITLE OF INVENTION: NOVEL APOPTOSIS MODULATING
TITLE OF INVENTION: THEREOF
TITLE OF INVENTION: THEREOF
NUMBER OF SEQUENCES: 24
CORRESPONDENCE ADDRESS:
ADDRESSEE: MORRISON & FOERSTER
STREET: 755 PAGE MILL ROAD
CITY: Palo Alto
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Best Local Similarity 100.0%; Pred. No. 6.7e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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ZIP: 94304-1018

COMPUTER: READBLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ for Windows Version 2.0
SOFTWARE: FastSEQ for Windows Version 2.0
SOFTWARE: Follow DATA:
APPLICATION NUMBER: US/08/471,058
FILING DATE: 06-10N-1995
FILING DATE: 07-00T-1995
FILING DATE: 07-00T-1994
APPLICATION NUMBER: 08/320,157
FILING DATE: 30-NOV-1993
ATTORNEY/AGENT INFORMATION:
NAME: LEADINATE: 30-NOV-1993
ATTORNEY/AGENT INFORMATION:
RESTRENCE/DOCKET NUMBER: 33-43
REFERENCE/DOCKET NUMBER: 33647-Z0007.12
TELEPHONE: 415-414-0792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 16, Application US/08471058 Patent No. 5770443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEX: 706141
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
LENGTH: 172 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 172 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            single
                                                                                                                                                                                                   TYPE: PRT;
CRGANISM: M.catarrhalis
US-09-540-236-2222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                                                                                                                                                 97 VAEF 100
                                                                                                                                                                                                                                                                                                                                                                            2 VAEF 5
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US-08-471-058-16
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Gaps

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RESULT 60
US-08-470-865-16
Sequence 16, Application US/08470865
Patent No. 6586395
GENERAL INFORMATION:
APPLICANT: RIFER, MICHAEL C.
APPLICANT: BARR, PHILIP J.
TITLE OF INVENTION: NOVEL APOPTOSIS-MODULATING PROTEINS, DNA
TITLE OF INVENTION: ENCODING THE PROTEINS AND METHODS OF USE THEREOF
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
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Best Local Similarity 100.0%; Pred. No. 6.7e+02;
Matches 4; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                              95.0%; Score 19; DB 3; L. 100.0%; Pred. No. 6.7e+02; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEX: 706141
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 172 amino acids
TYPE: amino acids
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              172 amino acids
                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                       TOPOLOGY: linear
MOLECULE TYPE: peptide
MEDIATE SOURCE:
LIERARY: GenBank
CLONE: 293274
US-09-113-789-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: amino acid
STRANDEDNESS: si
                                                                                                                                                                                                                                                                                                                                                          122 VAEF 125
                                                                                                                                                                                                                                                                                                                        2 VAEF 5
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US-08-470-865-16
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gequence 3, Application US/09113789

Facent No. 6034219

GENERAL INFORMATION:
APPLICANT: Hillman, Jennifer L.
APPLICANT: Hillman, Jennifer L.
APPLICANT: Goli, Surya K.
TITLE OF INVENTION: NOVEL HUMAN MACROPHAGE ANTIGEN
NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
ADDRESSE: Incyte Pharmaceuticals, Inc.
STREET: 3174 Porter Drive
CITY: Palo Alto
STREET: ADDRESS:
COUNTRY: U.S.
ZIP: 94304
COMPUTER: EAS Diskette
COMPUTER: EBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FRALENCY DAS
APPLICATION DATA:
HILL CATION DATA:
FILLING PART.
                                ZIP: 94304-1018

ZIP: 94304-1018

CONPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/471,057
                                                                                                                                                                                           CLASSIFICATION:
PRIOR APPLICATION
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/320,157
FILING DATE: 07-0CT-1994
ATTORNEY/AGENT INFORMATION:
NAME: LEHNHARD! SUSAN K.
REGISTRATION NUMBER: 33 943
REFERENCE/DOCKET NUMBER: 23647-20007.20
TELEPHONE: (415) 813-5600
TELEPHONE: (415) 494-0792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PF-0110 US
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/690,095
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Billings, Lucy J.
REGISTRATION NUMBER: 36,749
REFERENCE/DOCKET NUMBER: 26,749
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                         TELERAX: (415) 494-0792
TELEX: 706141
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
LENGTH: 172 amino acids
TYPE: amino acid
STRANDEDNESS: single
   California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    122 VAEF 125
                                                                                                                                                                                   FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
US-08-471-057-16
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US-09-113-789-3
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Gaps

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Sequence 6139, Application US/09328352
Patent No. 6562958
GENERAL INFORMATION:
TITLE OF INVENTION: WICLEIC ACID AND AMINO ACID SEQUENCES RELATING TO ACINETOBACTER
TITLE OF INVENTION: BAUMANNII FOR DIAGNOSTICS AND THERAPEUTICS
TITLE REFERENCE: GTC99-03PB
CURRENT APPLICATION NUMBER: US/09/328,352
CURRENT FILING DATE: 1999-06-04
SEQ ID NOS: 8252
ENGTH: 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 2, Application US/08737980
; Patent No. 5643773
; GENERAL INFORMATION:
    APPLICANT:
    TITLE OF INVENTION: Apoptosis Regulating Gene
    NUMBER OF SEQUENCES: 2
    COMPUTER READABLE FORM:
    MEDIAN TYRE: Floppy disk
    COMFUTER: IRM PC compatible
    COMFUTER: PROPPY MISK
    COMPUTER: PRO
                                                                                                                        Length 174;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 175;
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ilarity 100.0%; Pred. No. 7e+02;
Conservative 0; Mismatches 0; Indels
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                                                                                                                   95.0%; Score 19; DB 4; L. 100.0%; Pred. No. 6.8e+02; tive 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: KR 1995-6266
FILING DATE: 24-MAR-1995
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
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; ORGANISM: Klebsiella pneumoniae
US-09-489-039A-9869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%;
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                                                                                                                   Query Match
Best Local Similarity 100.
Matches 4; Conservative
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Matches 4, Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
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US-08-737-980-2
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Sequence 9869, Application US/09/899039A
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
CURRENT APPLICATION NUMBER: US/09/489,039A
CURRENT APPLICATION NUMBER: US 60/117,747
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 14342
SEQ ID NO 9869
LENGTH: 174
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                                                                                                                                                                                                                                                 Sequence 4, Application US/08193977

Patent No. 5625031

GENERAL INFORMATION:
APPLICANT: WESTER, KEVIN R.
APPLICANT: COLEMAN, KEVIN G.
TITLE OF INVENTION: PEPTIDE INHIBITORS OF THE P33CDK2 AND
TITLE OF INVENTION: P34CDC2 CELL CYCLE REGULATORY KINASES AND HUMAN
TITLE OF INVENTION: P34CDC2 CELL CYCLE REGULATORY KINASES AND HUMAN
TITLE OF INVENTION: P34CDC2 CELL CYCLE REGULATORY KINASES AND HUMAN
TITLE OF INVENTION: P34CDC2 CELL CYCLE REGULATORY KINASES AND HUMAN
TITLE OF INVENTION: P34CDC2 CELL CYCLE REGULATORY KINASES AND HUMAN
TITLE OF INVENTION: P34CDC2 CELL CYCLE REGULATORY KINASES AND HUMAN
TITLE OF INVENTION: P34CDC2 CELL CYCLE REGULATORY KINASES AND HUMAN
TITLE OF INVENTION: P34CDC2 CELL CYCLE REGULATORY
TITLE OF INVENTION P34CDC2 
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CITY: PALO ALTO
STATE: CALIFORNIA
COUNTRY: UNITED STATES OF AMERICA
ZIP: 9430 INTED STATES OF AMERICA
ZIP: 9430 INTED STATES OF AMERICA
COMPUTER, EADABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PETENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
FILING DATE: 08-FEB-1994
CLASSIFICATION: 5330
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100.0%; Pred. No. 6.7e+02;
ative 0; Mismatches 0;
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NAME: ROBINS, ROBERTA L.
REGISTATION UNDRER: 33,08
RETERENCE/COCKET UNDRER: 5998-0016
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 617-8999
TELEPHONE: (415) 327-3231
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 173 amino acida
TYPE: amino acid
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Best Local Similarity 100.
Matches 4; Conservative
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TOPOLOGY: linear
MOLECULE TYPE: peptide
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122 VAEF 125
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Score 19; DB 1; Length 190;
Pred. No. 7.4e+02;
0; Mismatches 0; Indels
                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette COMPUTER: Diskette COMPUTER: Diskette COMPUTER: Diskette COMPUTER: DISKETSE COT WINDOWS VEREION 2.0 SOFTWARE: FREUENC COW WINDOWS VEREION 2.0 CTREATING SYSTEM: DOS SOFTWARE: PAPLICATION NUMBER: US/08/816,241
FILING DATE: Flied Herewith CLASSIFICATION: 435
PRIOR APPLICATION NUMBER: BY TILING DATE: FILING TOWNER: BILLINGS, LUCY J. REGISTRATION NUMBER: BF-0239 US REFERENCE/DOCKET NUMBER: PF-0239 US TELEFRAX: A15-045-0456
INFORMATION FOR SEQ ID NO: 1: SEQUENCE CAPARCTER STICS: TELEFRAX: A110-04166
INFORMATION FOR SEQ ID NO: 1: SEQUENCE CAPARCTER STICS: TELEFRAX: SINGLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1, Application US/09128395
Fatent No. 6087108
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION:
NUMBER OF SEQUENCES:
CORRESPONDENCE ADDRESS:
ADDRESSEE: Incyte Pharmaceuticals, Inc.
STREET: 3174 Porter Drive
CITY: Palo Alto
STATE: CA
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
COFTWARE: Pastes6; for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/128,395
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CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/816,241
FILING DATE:
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LIBRARY: PROSTUT09
CLONE: 1646823
STREET: 31/2 ... CITY: Palo Alto
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Best Local Similarity
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TOPOLOGY: lin
                                                                                 USA
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                                       CITY: Pal
STATE: CA
COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-816-241-1
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US-09-128-395-1
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                                                                                 Sequence 24441, Application US/09252991A

GENERAL INFORMATION:

NUCLEIC ALD AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS

TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS

FILE REPERENCE: 107196-136

CURRENT APPLICATION NUMBER: US/09/252,991A

CURRENT FILING DATE: 1999-02-18

PRIOR FILING DATE: 1998-02-18

PRIOR FILING DATE: 1998-07-27

NUMBER OF SEQ ID NOS: 33142

SEQ ID NO 24341

LENGTH: 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:

APPLICANT: GRAY BRETON
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PROTEUS MIRABIL
TITLE OF INVENTION: DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 2709.1002-001
CURRENT APPLICATION NUMBER: US 60/128,706
PRIOR APPLICATION NUMBER: US 60/128,706
PRIOR FILING DATE: 1999-04-09
NUMBER OF SEQ ID NOS: 8344
SEQ ID NO 7313
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 95.0%; Score 19; DB 4; Length 185; Best Local Similarity 100.0%; Pred. No. 7.2e+02; Matches 4; Conservative 0; Mismatches 0; Indels
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APPLICANT: Goli, Surya K.
TITLE OF INVENTION: NOVEL RNA EDITING ENZYME
NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
CARDESSEE: Incyte Pharmaceuticals, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 7313, Application US/09543681A Patent No. 6605709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 1, Application US/08816241 Patent No. 5804185 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: PRT
ORGANISM: Pseudomonas aeruginosa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 189
TYPE: PRT
ORGANISM: Proteus mirabilis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 100.
Matches 4; Conservative
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US-08-816-241-1
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EARLIER FILING DATE: 1998-07-20
EARLIER APPLICATION NUMBER: 60/110,941
EARLIER FILING DATE: 1998-12-04
NUMBER OF SEQ ID NOS: 105
SOFTWARE: FREUSEQ for Windows Version 3.0
SEQ ID NO 85
LENGTH: 199
                                                                                                                                                                                                                                           TYPE: PRT;
; ORGANISM: Aspergillus nidulans
US-09-232-200-85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99 VAEF 102
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US-09-232-197-85
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 3800, Application US/09134000C
| Patent No. 6617156
| GENERAL INFORMATION:
| APPLICATION: DOUGETE-Stamm et al TILLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO TILLE OF INVENTION: ENTEROCOCCUS FAECALIS FOR DIAGNOSTICS AND THERAPEUTICS TILLE REFERENCE: 302796-032
| CURRENT PILLING DATE: 1998-08-13 | CURRENT FILLING DATE: 1998-08-13 | PRIOR APPLICATION NUMBER: US 60/055,778 | PRIOR PILNG DATE: 1997-08-15 | SOFTWARE: Patentin version 3.1 | SOFTWARE: Patentin versio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
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100.0%; Pred. No. 7.6e+02;
tive 0; Mismatches 0; Indels
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Patent No. 6288213
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Stahl, Andreas
APPLICANT: Hirsch, David J.
APPLICANT: Hodish, Harvey F.
APPLICANT: Tartaqlia, Louis A.
TILLE OF INVENTION: FATTY ACID TRANSPORT PROTEINS
FILE REPERENCE WHI9917-2193MB
CURRENT FILING DATE: 1999-01-14
                                                                               PF-0239 US
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EARLIER FILING DATE: 1998-01-15
EARLIER APPLICATION NUMBER: 60/093,491
NAME: Billings, Lucy J.
REGISTRATION NUMBER: 36,749
REFERENCE/DOCKET NUMBER: PF-02
TELEPHONE: 415-855-055
TELEPHONE: 415-845-4166
INFORMATION EN SEQ ID NO: 1: SEQUENCE CHARACTERISTICS:
LENGTH: 190 amino acids
TYPE: amino acid
STANUEDNESS: single
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
IMMEDIATE SOURCE:
LIBRARY: PROSTUT09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT; ORGANISM: Enterococcus faecalis
US-09-134-000C-3800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 100.'
....hes 4; Conservative
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Best Local Similarity 100.
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US-09-232-200-85
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Length 199;
                                            0; Indels
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Sequence 85, Application US/09232197A
Setent No. 6200096
GENERAL INFORMATION:
APPLICANT: Stanl, Andreas
APPLICANT: Lodish, Harvey F.
APPLICANT: Lodish, Harvey F.
APPLICANT: Tartadila, Louis A.
TITLE OF INVENTION: FATTY ACID TRANSPORT PROTEINS
FILE REFERENCE: MIP9-7.129MA.
CURRENT PAPLICATION NUMBER: 06/071,374
EARLIER APPLICATION NUMBER: 60/071,374
EARLIER APPLICATION NUMBER: 60/093,491
EARLIER PILING DATE: 1998-01-15
EARLIER FILING DATE: 1998-01-15
EARLIER FILING DATE: 1998-01-15
EARLIER FILING DATE: 1998-12-04
EARLIER FILING DATE: 1998-10-72
SEQIENCE FALIER FOR NUMBER: 60/110,941
EARLIER FILING DATE: 1998-12-04
SOFTWARE FARESCO FOR WINGOWE VERSION 3.0
SEQ ID NO 85
FEWART 10.05
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US-09-232-201-85

Sequence 85, Application US/09232201A

Patent No. 6348321

GENERAL INFORMATION:
APPLICANT: Stahl, Andreas
APPLICANT: Lodish, Harvey F.
APPLICANT: Gineno, Ruth E.
APPLICANT: Tartaglia, Louis A.
TITLE OF INVENTION: FATTY ACID TRANSPORT PROTEINS
FILE REPERENCE: WH197-21,2000
CURRENT APPLICATION NUMBER: US/09/232,201A
CURRENT FILING DATE: 1999-01-14

EARLIER PELING DATE: 1998-01-15
  Score 19; DB 3; L; Pred. No. 7.8e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  95.0%; Score 19; DB 100.0%; Pred. No. 7.8 tive 0; Mismatches
                                            0; Mismatches
    95.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; ORGANISM: Aspergillus nidulans US-09-232-197-85
  Query Match
Best Local Similarity 100.
Matches 4; Conservative
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Best Local Similarity 100.
Matches 4; Conservative
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NAME/KEY: misc_feature
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; SEQUENCE DESCRIPTION: SEQ ID NO: 4612:
US-09-107-532A-4612
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; Sequence 1, Application US/08684024; Patent No. 5834298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: YES
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 VAEF 5
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Sequence 4612, Application US/09107532A
Datent No. 6583275
GENERAL INFORMATION:
APPLICANT: Lynn A Doucette-Stamm and David Bush
APPLICANT: Lynn A Doucette Stamm and David Bush
TITLE OF INVENTION: BUTEROCOCCUS FAECIUM FOR DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
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                                                                                                                                                                                                                                                                                                                     Query Match 95.0%; Score 19; DB 4; Length 199; Best Local Similarity 100.0%; Pred. No. 7.8e+02; Matches 4; Conservative 0; Mismatches 0; Indels
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CORRESPONDENCE ADDRESS:
ADDRESSEE: GENOME THERAPEUTICS CORPORATION
STREFT: 100 Beaver Street
CITY: Waltham
STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INC. 002.003.

GENERAL Stahl, Andreas
APPLICANT: Stahl, Andreas
APPLICANT: Hissch, David J.
APPLICANT: Lodish, Harvey F.
APPLICANT: Gimeno, Ruth E.
APPLICANT: Gimeno, Ruth E.
APPLICANT: Gimeno, Ruth E.
TITLE OF INVENTION: FATTY ACID TRANSPORT PROTEINS
FILE REFERENCE: WH197-21p3MD
CURRENT APPLICATION NUMBER: 105/0212,195A
CURRENT APPLICATION NUMBER: 60/071,374
EARLIER APPLICATION NUMBER: 60/071,374
EARLIER APPLICATION NUMBER: 60/03,491
EARLIER APPLICATION NUMBER: 60/03,491
EARLIER APPLICATION NUMBER: 60/03,491
EARLIER FILING DATE: 1998-07-20
EARLIER APPLICATION NUMBER: 60/10,941
EARLIER FILING DATE: 1998-12-04
NUMBER OF SEQ ID NOS: 105
SOFTWARE: FASTSEQ for Windows Version 3.0
EARLIER APPLICATION NUMBER: 60/093,491
EARLIER FILING DATE: 1998-07-20
EARLIER FILING DATE: 1998-12-04
EARLIER FILING DATE: 1998-12-04
NUMBER OF SEQ ID NOS: 105
SOFTWARE: PastSEQ for Windows Version 3.0
SEQ ID NO 85
LENGTH: 199
TYPE: RRI
GOGANISM: Aspergillus nidulans
IS-09-232-201-85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18-09-232-195-85
Sequence 85, Application US/09232195A
Patent No. 6657049
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TYPE: PRT
ORGANISM: Aspergillus nidulans
US-09-232-195-85
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Best Local Similarity 100.
Matches 4; Conservative
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FACERCAND SOSAGE

GENERAL INFORMATION:

APPLICANT: Benezra, Robert

TITLE OF INVENTION: GENE ENCODING THE HUMAN HOMOLOG OF MAD2

INTHER OF SEQUENCES: 9

CORRESPONDENCE ADDRESS: 9

COUNTRY: U.S.A.

ZIP: 1036

CONFUTEN: IBM PC compatible

COMPUTEN: IBM PC compatible

COMPUTEN: IBM PC compatible

COMPUTEN: IBM PC compatible

COMPUTEN: 19 PODDY disk

COMPUTEN: 19 PODDY disk

COMPUTEN: 19 TODDY disk

COMPUTEN: 19 TODDY DATA: 10 TODD

CORRENT APPLICATION NAMBER: US/08/684,024

FILING DATE: 19 -UUL-1996

CLASSIFICATION: NUMBER: 19 -UUL-1996

CLASSIFICATION: NUMBER: 28,678

REFERENCE/DOCKET NUMBER: 28,678

REFERENCE/DOCKET NUMBER: 1747/46621-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 95.0%; Score 19; DB 4; Length 203; Best Local Similarity 100.0%; Pred. No. 7.9e+02; Matches 4; Conservative 0; Mismatches 0; Indels
ZIP: 02354

COMPUTER READABLE FORM:
MEDIUM TYPE: CD/ROM ISO9660
COMPUTER: PC
OPPERATING SYSTEM: «Unknown>
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/107,532A
PILING DATE: 30-Jun-1998
PRIOR APPLICATION NUMBER: 60/085,598
FILING DATE: 14 May 1998
APPLICATION NUMBER: 60/085,598
FILING DATE: July 2, 1997
ATTORNEY/AGENT INFORMATION:
NAME: Ariniello, Pamela Deneke
REGISTRATION NUMBER: 40,489
REFERENCE/DOCKET NUMBER: 40,489
REFERENCE/DOCKET NUMBER: GTC-012
TELEPHOMINICATION NUMBER: GTC-012
TELEPHOMINICATION NUMBER: GTC-012
TELEPHOMINICATION STORMATION:
TELEPHOMINICATION STORMATION:
TELEPHOMINICATION OF 4612:
SEQUENCE CHARACTERISTICS:

LENGTH: 203 amino acids
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TELECOMMUNICATION INFORMATION:
TELEPACNE: (212) 278-0400
TELEPAC: (212) 391-0526
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 205 amino acids
TYPE: amino acid
STRANDEDNESS: single
TYPE: amino acid
STRANDEDNESS: single
MOLECULE TYPE: protein
US-08-684-024-1
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Query Match 95.0%; Score 19; DB 2; Length 205;
Best Local Similarity 100.0%; Pred. No. 8e+02;
Matches 4; Conservative 0; Mismatches 0; Indels 0; Gaps Oy 2 VARF 5

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Search completed: May 24, 2004, 17:43:23 Job time : 16 secs

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Sequence 69, Appl Sequence 570, App Sequence 49, Appl Sequence 45, Appl Sequence 71, Appl Sequence 37202, A Sequence 13303,

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4 US-10-043-344-69

5 US-10-242-355-570

6 US-10-430-755A-45

6 US-10-430-755A-45

7 US-10-430-755A-45

7 US-10-430-752A-45

7 US-10-430-752A-45

7 US-10-430-752A-45

7 US-10-424-599-192247

7 US-10-424-599-205655

7 US-10-424-599-205655

7 US-10-424-599-205665

7 US-10
   Sequence 343, App
Sequence 206, App
Sequence 206, App
Sequence 145, App
Sequence 197, App
Sequence 197, App
Sequence 34, Appl
Sequence 379, Appl
Sequence 62, Appl
Sequence 62, Appl
Sequence 63, Appl
Sequence 65, Appl
Sequence 65, Appl
Sequence 65, Appl
Sequence 65, Appl
Sequence 47201, A
Sequence 25, Appl
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                                                                                                                     May 24, 2004, 17:34:23 ; Search time 39.6429 Seconds (without alignments) 35.179 Million cell updates/sec
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US-09-791-393-206
US-09-791-393-206
US-09-128-711-85
US-09-908-943A-197
US-09-908-943A-197
US-09-908-943A-197
US-09-908-943A-196
US-00-908-943A-196
US-00-908-943A-196
US-00-10-132-818-34
US-10-132-818-34
US-10-132-818-36
US-09-171-432A-63
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Maximum Match 100%
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                                                                                         - protein search, using sw model
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Gapop 10.0 , Gapext 0.5
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Match Length I
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erfect score;
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.0 413 12 US-10-282-122A-48732 Sequenc. .0 413 15 US-10-369-493-1140 Sequenc. .0 414 9 US-09-820-893-69 Sequence. .0 414 12 US-10-424-599-285027 Sequence.	.0 414 12 US-10-607-565-69 Sequence	.0 415 12 US-10-282-122A-65349 Sequence	.0 415 12 US-10-282-122A-63787 Sequence	.0 416 14 US-10-156-761-12502 Sequence	.0 416 15 US-10-369-493-4737 Sequence	.0 416 15 US-10-369-493-7496 Sequenc	.0 417 12 US-10-424-599-274599 Sequence	.0 417 12 US-10-425-114-56059 Sequenc	.0 41/ 14 US-128-/14-3345 Sequence	.0 418 11 US-09-981-151A-29 Sequenc	.0 419 15 US-10-369-493-20475 Sequenc	.0 420 15 US-10-369-493-13961 Sequenc	.0 421 9 US-09-815-242-5303 Sequence	.0 421 9 US-09-815-242-12388 sequence	.0 421 9 US-09-815-242-12820 sequence	.0 421 12 US-10-282-122A-71223 Sequenc	.0 421 12 US-10-425-114-56431 Sequenc	.0 421 14 US-10-138-701-8 Sequenc	.0 421 14 US-10-138-701-22 Sequenc	0 422 12 US-10-282-122A-66702 Sequenc	0 423 12 US-10-282-122A-53283 Sequenc	.0 423 12 US-10-424-599-204268 Sequenc	.0 423 12 US-10-425-114-46740 Sequenc	0 423 12 118-10-107-431-49 Sequence	0 423 12 IIS-10-183-687-222 Sequence	01-01-01-01-01-01-01-01-01-01-01-01-01-0	,0 423 IS US-IU-369-493-555/ Sequence	.0 424 12 US-10-282-122A-45014 Sequence	; 0 424 12 US-10-424-599-214840 Sequence	424 14 US-10-156-761-14870 Sequenc	.0 425 14 US-10-156-761-7776 Sequence	. 0 425 14 118-10-214-446-20 Sequence	3.0 42.0 II 00-10 6II 14-68506 SPENDED	10 427 15 118-10-369-493-2977 Sequence	. 0 427 15 18-10-369-493-11890 Sequence	. 0 427 15 118-10-104-047-2262 Seguence	CHALDAR CLUTTER SOLUTION OF CALL	3.0 42.0 12 0.0 -1.0 -1.0 -1.0 -2.0 -2.1 0.2 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.00	0.0 PER	0.0 4.01 12 0.03-10-202-1225 0.1025	3.0 421 12 US-IQ-424 300 E1E332 COMPAND	0.0	0.0	0.0	0.0 432 IS US-IU-369-493-83/3 Sequent	5.0 433 14 US-10-128-714-8545 Sequence	5.0 433 IS US-10-369-493-10203 SEQUENTS	0.0 4434 12 US-101-202-1122A-002-01 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	0.0 455 IS US-IN-00-1/10-01-01 OF US OF US	0.0 456 IZ 00-IO-E0-1244-00001 0.0 456 0.0	0.00 45.00 12 030-11-1-11-1-10-10-10-10-10-10-10-10-10-1	5.0 436 IZ 03-IO-74I-0I2-Z33 5.0 436 15 IIS-10-369-493-21378 Sequence	Sequence	2.0 427 9 112-02-738-626-4226 Sequence	3.0 437 10 HS-09-746-660A-2 Sequence	5.0 437 12 HS-10-282-122A-42940 Sequence	5 0 437 12 HS-10-282-122A-73421 Sequence	2.0 427 12 UG-10-440-055-6 3:12 Seguence	5.0 43/ LZ US-10-400-000-6	0.0 43.7 It US-10-1/1-00-300 of 5t	0.0 4437 15 US-IU-ZYD-UZ/1-1160 36Quento	5.0 4438 IZ US-IU-Z8Z-IZZA-D0103 SEQUENC	5.0 438 IZ US-IU-282-122A-30101 Sequent	5.0 438 12 US-10-282-122A-75202 Sequent	5.0 438 12 US-10-282-122A-75609 Sequent	2 0 1 11 11 11 Section
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## STUBMENTS 14

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ABSULT 1

JS-09-791-378-343

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JTTLE OF INVENTION: PROTEINS, GENES AND THEIR USE FOR DIAGNOSIS AND TREATMENT CONTRENT PILING DATE: 2001-02-23

JRIGAR APPLICATION NUMBER: US/09/791,378

CURRENT PILING DATE: 2000-12-28

NUMBER OF SEQ ID NOS: 677

SOFTWARE: Parcent in version 3.0

JENGTH: 8

LENGTH: 8

TITLE OF INVENTION: DATE: 2000-12-28

NUMBER OF SEQ ID NOS: 677

SOFTWARE: Parcent in version 3.0

SEQ ID NO 343

LENGTH: 8

TITLE OF INVENTION: BASE OF THE OF THE
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RESULT 2 US-09-791-393-206

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APPLICANT: Herath, Herath Mudjyanselage Athula Chandrasiri
APPLICANT: Barekh, Rajesh Bhikhu
APPLICANT: Parekh, Rajesh Bhikhu
APPLICANT: Parekh, Rajesh Bhikhu
APPLICANT: Terrett, Jonathan Alexander
APPLICANT: Terrett, Jonathan Alexander
APPLICANT: Trerett, Jonathan Alexander
APPLICANT: Trerett, Jonathan Alexander
APPLICANT: Trerett, Jonathan Alexander
APPLICANT: Trerett, Jonathan Alexander
APPLICANTION: Diagnosis and Treatment of Bipolar Affective Disorder
TITLE OF INVENTION: Diagnosis and Treatment of Bipolar Affective Disorder
TITLE OF INVENTION: and Unipolar Depression
FILE REFRENCE: 2543-1-001 N2
CURRENT APPLICATION NUMBER: US/09/791,389
CURRENT PILING DATE: 2000-02-23
FRIOR APPLICATION NUMBER: GB 0004412.3
FRIOR APPLICATION NUMBER: GB 0030050.9
FRIOR APPLICATION NUMBER: GB 00254,830
FRIOR FILING DATE: 2000-12-12
NUMBER OF SEQ ID NOS: 308
SOFTWARE: PESESEQ for Windows Version 4.0
SEQ ID NO 206
LENGTH: B
Sequence 206, Application US/09791393
Publication No. US2003003220041
GENERAL INFORMATION. US2003003220041
GENERAL INFORMATION. US2003003220041
JAPBLICANT: Herath, Herath Mudiyanselage Athula Chandrasiri
APBLICANT: Bareth, Rajesh Bhikhu
APBLICANT: Rohlff, Christian, Genes and Their Use for
TITLE OF INVENTION: Diagnosis and Treatment of Bipolar Affective Disorder (BAD)
TITLE OF INVENTION: Diagnosis and Treatment of Bipolar Affective Disorder (BAD)
TITLE OF INVENTION: Diagnosis and Treatment of Bipolar Affective Disorder (BAD)
TITLE OF INVENTION: And Unipolar Depression
TITLE OF INVENTION: MUMBER: US/09/791,393
CURRENT APPLICATION NUMBER: GB 0004412.3
EARLIER PLING DATE: 2000-10-02-24
EARLIER PLING DATE: 2000-12-08
EARLIER PLING DATE: 2000-12-08
EARLIER FILING DATE: 2000-12-08
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ORGANISM: homo sapien
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ORGANISM: homo sapien
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Matches 4; Conserv
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US-09-791-389-206
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셤
                                                                                                                                                                               SETTE, Alessandro D.
CELIS, Esteban
GRAY, Howard
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR ELICITING
CTL INMUNITY
NUMBER OF SEQUENCES: 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTY: CALLIOLING
COUNTY: US
ZIP: 94105-1493
COMPUTER READABLE FORM:
MEDDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OFFWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/128,711
FILING DATE: 22-Apr-2002
CLASSIFICATION NUMBER: US/08/197,484
FILING DATE: 16-FEB-1994
APPLICATION NUMBER: US 07/935,811
FILING DATE: 27-APR-1992
APPLICATION NUMBER: US 07/915,812
FILING DATE: 27-APR-1992
APPLICATION NUMBER: US 07/915,682
FILING DATE: 29-JAN-1992
APPLICATION NUMBER: US 07/874,491
FILING DATE: 29-JAN-1992
APPLICATION NUMBER: US 07/877,682
FILING DATE: 25-JAN-1992
APPLICATION NUMBER: US 07/827,688
FILING DATE: 25-JAN-1992
APPLICATION NUMBER: US 07/749,568
                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend Khourie and Crew
STREET: Steuart Street Tower, One Market Plaza
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  95.0%; Score 19; DB 14; Length 9; 100.0%; Pred. No. 1e+06; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
NAME: Parmelee, Steven W.
REGISTRATION NUMBER: 31,990
REFERENCE/DOCKET NUMBER: 14137-26-4
TELECOMMULCATION INFORMATION:
TELEPHONE: (206) 467-9600
TELEPHONE: (206) 623-6793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRANDEDNESS: unknown
TOPOLOGY: unknown
MOLECULE TYPE: peptide
SEQUENCE DESCRIPTION: SEQ ID NO: 86:
                                                                                                                              VITIELLO, Maria A. CHESTNUT, Robert W.
                                              Sequence 86, Application US/10128711 Publication No. US20030099634A1
                                                                                                                                                                                                                                                                                                                                                                                                                              CITY: San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INFORMATION FOR SEQ ID NO: 86
SULT 4
-10-128-711-86
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Gaps
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Publication No. US20030017991A1
GENERAL INFORMATION:
APPLICANT: Yan, Rigiang
APPLICANT: Tomasselli, Alfredo G.
APPLICANT: Emmons, Thomas L.
APPLICANT: Emmons, Thomas L.
APPLICANT: Bienkowski, Mike J.
TITLE OF INVENTION: SUBSTRATES AND ASSAYS FOR BETA-SECRETASE ACTIVITY
FILE REFERENCE: 29915/00281A.US1
CELIS, Esteban
GERAY, HOWART
CHASSINUI, KOOGET W.
CELIS, Esteban
GERAY, HOWART
CELIS, Esteban
GERAY, HOWART
CONDOSTIONS
COTT INMUNITY
NUMBER OF SEQUENCES: 153
CORRESPONDENCE ADDRESS:
ADDRESSE: Townsend and Townsend Khourie and Crew
STREET: Steuart Street Tower, One Market Plaza
CITY: San Francisco
STATE: California
COUNTRY: US
COUNTRY: US
COMPUTER READABLE FORM:
MEDIUM TYPE: Flopy disk
COMPUTER: DATOSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURREY APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: US/10/128,711
FILING DATE: 22-Apr-2002
CLASSIFICATION NUMBER: US/09/197,484
FILING DATE: 12-Apr-1994
APPLICATION NUMBER: US 07/935,811
FILING DATE: 12-EFEB-1992
APPLICATION NUMBER: US 07/935,811
FILING DATE: 27-AMS-1992
APPLICATION NUMBER: US 07/874,491
FILING DATE: 22-AMS-1992
APPLICATION NUMBER: US 07/874,491
FILING DATE: 22-AMS-1992
APPLICATION NUMBER: US 07/874,491
FILING DATE: 22-AMS-1992
APPLICATION NUMBER: US 07/827,682
FILING DATE: 22-AMS-1992
APPLICATION NUMBER: US 07/827,682
FILING DATE: 22-AMS-1992
APPLICATION NUMBER: US 07/877,682
FILING DATE: 22-AMS-1992
APPLICATION NUMBER: US 07/874,491
FILING DATE: 22-AMS-1992
APPLICATION NUMBER: US 07/877,682
FILING DATE: 22-AMS-1992
APPLICATION NUMBER: US 07/874,491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME: Parmelee, Steven W.
REGISTRATION NUMBER: 31,990
REFERENCE/DOCKET NUMBER: 14137-26-4
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE: peptide
SEQUENCE DESCRIPTION: SEQ ID NO: 145:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEPHONE: (206) 467-9600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRANDEDNESS: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: (206) 623-
INFORMATION FOR SEQ ID NO: 14
SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT, 6
US-09-908-943A-197
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Gaps ö

Best Local Similarity 100. Matches 4; Conservative 2 VAEF 5 2 VAEF 5

Query Match

S-10-128-711-145
Sequence 145, Application US/10128711
Publication No. US20030099634A1
GENERAL INFORMATION:
APPLICANT: VITIELLO, Maria A.

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Sequence 379, Application US/10239313A

Publication No. US20030175285A1

Publication No. US20030175285A1

GENERAL INFORMATION:

APPLICANT: KLINGUER: - HAMOUR, Christine

APPLICANT: CCRVAIA, Nathalie

APPLICANT: CCRVAIA, Nathalie

APPLICANT: GCETGH, Liliane

TITLE OF INVENTION: WOLECULE OF PHARMACEUTICAL INTEREST COMPRISING AT ITS

TITLE OF INVENTION: WOLECULE OF PHARMACEUTICAL INTEREST COMPRISING AT ITS

TITLE OF INVENTION: OF A PHYSICLOGALLY ACCEPTABLE STRONG ACID

TITLE OF INVENTION: OF A PHYSICLOGALLY ACCEPTABLE STRONG ACID

TITLE OF INVENTION: OF A PHYSICLOGALLY ACCEPTABLE STRONG ACID

TITLE OF INVENTION: OF A PHYSICLOGALLY ACCEPTABLE STRONG ACID

TITLE OF INVENTION: OF A PHYSICLOGALLY ACCEPTABLE STRONG ACID

TITLE OF INVENTION: OF A PHYSICLOGALLY ACCEPTABLE STRONG ACID

TITLE OF INVENTION: OF A PHYSICLOGALLY ACCEPTABLE STRONG ACID

TITLE OF INVENTION: OF A PHYSICLOGALLY ACCEPTABLE STRONG ACID

FILE REPERROR APPLICATION NUMBER: FR 00/03711

PRIOR APPLICATION NUMBER: FR 00/03711

PRIOR PILING DATE: 2001-03-23

PRIOR FILING DATE: 2001-03-22

NUMBER OF SEQ ID NOS: 697

SEQ ID NOS: 697

SEQ ID NOS: 697
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Publication No. US20030175722A1
GENERAL INFORMATION:
APPLICANT: Mann. M. M. APPLICANT: Monten. P.
TITLE OF INVENTION: METHODS AND SYSTEMS FOR SEARCHING GENOMIC DATABASES
                                APPLICANT: Ghosh, Arun K.

TITLE OF INVENTION: Inhibitore of Memapsin 2 and Use Thereof
FILE REFERENCE: 293-1006-007
CURRENT APPLICATION NUMBER: US/10/032,818
CURRENT PILING DATE: 2001-12-28
PRIOR PELICATION NUMBER: US 60/255,756
PRIOR FILING DATE: 2001-03-14
PRIOR FILING DATE: 2001-12-28
NUMBER OF SEQ ID NOS: 83
SOFTWARE: FastSEQ for Windows Version 4.0
IENGTH: 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 95.0%; Score 19; DB 14; I
100.0%; Pred. No. 1.7e+02;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95.0%; Score 19; DB 14; 100.0%; Pred. No. 1.6e+02; ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; OTHER INFORMATION: Synthetic peptide US-10-032-818-34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; TYPE: PRT
; ORGANISM: Mycobacterium leprae
US-10-239-313A-379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 100.
Matches 4; Conservative
        Koelsch, Gerald
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 9
US-10-239-313A-379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
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                                                                                                                                                                                                                                                                                                                                                                                      FEATURE:
NAME/KEY: SITE
LOCATION: (4)...(4)
OTHER INFORMATION: amino acid at position 4 has been derivatized with a statine
LOCATION: (10)
LOCATION: (10)
COTHER INFORMATION: amino acid at position 10 has been derivatized with Bodipy FL
JS-09-908-943A-197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
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Bedience 196, Application US/0908943A

Publication No. US20030017991A1

GENERAL INFORMATION:

APPLICANT: Yan, Ridinag

APPLICANT: Gurney, Mark E.

APPLICANT: Bienkowsi, Mike J.

APPLICANT: Bienkowsi, Mike J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   95.0%; Score 19; DB 12; Length 12;
100.0%; Pred. No. 1.6e+02;
tive 0; Mismatches 0; Indels
CURRENT APPLICATION NUMBER: US/09/908,943A
CURRENT FILING DATE: 2001-07-19
PRIOR APPLICATION NUMBER: 60/219,795
PRIOR FILING DATE: 2000-07-19
NUMBER OF SEQ ID NOS: 197
SOFTWARE: Patentin Ver: 2.0
SEQ ID NO 197
LENGTH: 10
                                                                                                                                                                                                                                                                                                                                                     ORGANISM: synthetic peptide sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 34, Application US/10032818
Publication No. US20030092629A1
GENERAL INFORMATION:
APPLICANT: Tang, Jordan J.N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
ORGANISM: Artificial sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity luv.
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Length 20;

95.0%; Score 19; DB 10; I 100.0%; Pred. No. 2.6e+02; iive 0; Mismatches 0;

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Query Match
Best Local Similarity 100.
Matches 4; Conservative
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Sequence 62, Application US/09171432A
Publication No. US20030187184A1
GENERAL INFORMATION:
APPLICANT: Fields, Howard A.
APPLICANT: Kindyakov, Yury E.
TITLE OF INVENTION: Hepatitis A Virus Polyprotein
NUMBER OF SEQUENCES: 88
CORRESPONDENCE ADDRESS:
ADDRESSEE: Kilpatrick Stockton LLP
STREET: Georgia
COUNTRY: USA
CITY: Atlanta
STATE: Georgia
COUNTRY: USA
COUNTR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              95.0%; Score 19; DB 14; Length 15; 100.0%; Pred. No. 2e+02; tive 0; Mismatches 0; Indels
FILE REFERENCE: MDSP-P01-004
CURRENT APPLICATION NUMBER: US/10/119,528
CURRENT TILING DATE: 2002-04-09
PRIOR PILLING DATE: 2001-04-09
PRIOR PLICATION NUMBER: 60/285,362
PRIOR PLICATION NUMBER: 60/285,362
PRIOR PLILING DATE: 2001-04-20
NUMBER OF SEQ ID NOS: 112
SEQ ID NO 7
LENTH: 15
TYPE: PT CAPAIGOPSIS thaliana
CORGANISM: Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: Peptide
LOCATION: 1..20
OTHER INFRMATION: /label= YK-1368
S-09-171-432A-62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 100.0
....hes 4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear
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APPLICANT: LA Rosa Thomas J
APPLICANT: La Rosa Thomas J
APPLICANT: La Rosa Thomas J
APPLICANT: Shou Yihua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(5323)B
CURRENT APPLICATION NUMBER: US/10/424,599
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 216297
LENGTH: 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
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CTHER INFORMATION: EXPRESSED IN LING, SIGNAL = 0.46
CTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 0.67
CTHER INFORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 0.61
US-09-864-761-47201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
PRIOR FILING DATE: 2000-10-04
PRIOR APPLICATION NUMBER: US 60/236,359
PRIOR PLING DATE: 2000-09-27
PRIOR APPLICATION NUMBER: PCT/US01/00666
PRIOR PELING DATE: 2001-01-30
PRIOR FILING DATE: 2001-01-30
PRIOR FILING DATE: 2001-01-30
PRIOR PLING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: PCT/US01/00669
PRIOR APPLICATION NUMBER: PCT/US01/00669
PRIOR APPLICATION NUMBER: PCT/US01/00669
PRIOR PILING DATE: 2001-01-30
PRIOR PILING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: PCT/US01/00668
PRIOR APPLICATION NUMBER: PCT/US01/00668
PRIOR APPLICATION NUMBER: PCT/US01/00669
PRIOR APPLICATION NUMBER: PCT/US01/00661
PRIOR APPLICATION NUMBER: PCT/US01/00661
PRIOR APPLICATION NUMBER: PCT/US01/00661
PRIOR APPLICATION NUMBER: PCT/US01/00661
PRIOR PILING DATE: 2001-01-30
PRIOR PILING DATE: 2001-01-30
PRIOR PILING DATE: 2001-01-30
PRIOR PILING DATE: 2001-01-30
PRIOR PILING DATE: 2000-00-31
PRIOR FILING DATE: 2000-00-30
PRIOR FILING DATE: 2000-00-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               , OTHER INFORMATION: Clone ID: PAT_MRT3847_37345C.1.pep
US-10-424-599-216297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        95.0%; Score 19; DB 9; L6 100.0%; Pred. No. 3.7e+02; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; sequence 216297, Application US/10424599; Publication No. US20040031072A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT ORGANISM: Glycine max FEATURE:
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PATENT NO. US20020048763A1

PAPLICANT: Penn, Sharron G.

APPLICANT: Penn, Barron G.

APPLICANT: Penn, David R.

APPLICANT: APPLICANT: Penn, Wensheng

TITLE OF INVENTION: HUMBAN GENDE EXPRESSION ANALYSIS BY MICROARRAY

TITLE OF INVENTION: HUMBER: US 99/864,761

CURRENT FILING DATE: 2001-05-23

PRIOR APPLICATION NUMBER: US 60/180,312

PRIOR APPLICATION NUMBER: US 60/207,456

PRIOR PILING DATE: 2000-05-26

PRIOR PILING DATE: 2000-06-26

PRIOR PILING DATE: 2000-06-26

PRIOR PILING DATE: 2000-08-26

PRIOR PILING DATE: 2000-08-36

PRIOR PILING DATE: 2000-08-39

PRIOR PILING DATE: 2000-08-30

PRIOR PILING DATE: 2000-08-30

PRIOR PILING DATE: 2000-08-30
                                                APPLICANY: Kundyakov, Yury E.
TITLE OF INVENTION: Antigenically Reactive Regions of the
TITLE OF INVENTION: Hepatitis A Virus Polyprotein
NUMBER OF SEGUENCES: 88
CORRESPONDENCE ADDRESS:
ADDRESSE: Adal Peachtree Road, N.E.
STRATE: 3424 Peachtree Road, N.E.
CITY: Atlanta
CUNTRY: Georgia
COMPUTRY: 184 PC compatible
COMPUTRY: ISH PC compatible
COMPUTRY: ISH PC compatible
COMPUTRY: BEADABLE FORM:
MEDIUM TYRE: 180 PC compatible
COMPUTRY: 181 PC compatible
COMPUTRY: 181 PC compatible
COMPUTRY: 1824
COMPUTRY: 181 PC compatible
COMPUTRY: 1825
SOFTWARE: Patentin Release #1.0, Version #1.30
SOFTWARE: Patentin Release #1.0, Version #1.30
SOFTWARE: 23-NOV-1998
CLASSIFICATION: NUMBER: 32,467
FILING DATE: 23-NOV-1998
CLASSIFICATION NUMBER: 32,467
REPERBNCE/COCKET NUMBER: 32,467
REPERBNCE/CATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION OF SEC ID NO: 65:
SEQUENCE CHARRACTERISTICS:
LENGTH: 25 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 95.0%; Score 19; DB 10; Length 25; Best Local Similarity 100.0%; Pred. No. 3.3e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; LOCATION: 1..25
; OTHER INFORMATION: /label= YK-1832
JS-09-171-432A-65
                                    Khudyakov, Yury E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLGGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
STRANDEDNESS: single
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US-09-864-761-47201
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PRIOR APPLICATION NUMBER: 60/218,290
PRIOR FILING DATE: 2000-07-14
Remaining Prior Application data removed - See File Wrapper or PALM.
NUMBER OF SEQ ID NOS: 1267
SEQ TARRE: Patentin Ver. 2.0
SEQ ID NO 570
LENGTH: 37
                                                                                                                                                                                                                                                                                                                                                                                            95.0%; Score 19; DB 15; Length 37; 100.0%; Pred. No. 4.9e+02; Live 0; Mismatches 0; Indels
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US-110-430.702A-49

Publication No. US2004000569A1

GENERAL INFORMATION:
APPLICANT: Stath, Stefan
APPLICANT: Jonasson, Per
APPLICANT: Wygren, Per-Ake
TITLE OF INVENTION: C-PEPTIDE
TITLE OF INVENTION: C-PEPTIDE
FILE REFERENCE: 1154-103001
CURRENT APPLICATION NUMBER: US/10/430,752A
CURRENT APPLICATION NUMBER: US/10/485,286
PRIOR FILING DATE: 2000-05-07
PRIOR FILING DATE: 1999-08-07

PRIOR FILING DATE: 1999-08-07

WUMBER OF SEQ ID NOS: 63

SOFTWARE: FastESEQ for Windows Version 4.0
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Sequence 45, Application US/10430752A

Publication No. US20040005669A1

GENERAL INFORMATION: Stefan

APPLICANT: Stahl, Stefan

APPLICANT: Uplan, Per-Ake

APPLICANT: Uplan, Per-Ake

APPLICANT: Uplan, Per-Ake

TITLE OF INVENTION: RECOMBINANT EXPRESSION OF INSULIN

TITLE OF INVENTION: C-PEPTIDE

FILE REPERENCE: 11541-003001

CURRENT APPLICATION NUMBER: US/10/430,752A

CURRENT FILING DATE: 2003-05-06

PRIOR FILING DATE: 2000-02-07
                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 95.0
Best Local Similarity 100.
Matches 4; Conservative
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ORGANISM: Verasper moseri
US-10-430-752A-49
                                                                                                                                                                                                                                                         ; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-242-355-570
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US-10-430-752A-49
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                                                    95.0%; Score 19; DB 12; Length 28; 100.0%; Pred. No. 3.7e+02; iive 0; Mismatches 0; Indels
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95.0%; Score 19; DB 14; Length 35;
Best Local Similarity 100.0%; Pred. No. 4.7e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                             -10-043-344-69
Sequence 69, Application US/10043344
Publication No US20030088086A1
GENERAL INFORMATION:
APPLICANT: LOOSMOTE, Sheena M.
APPLICANT: Activates, Robin E.
APPLICANT: Chong, Pele
APPLICANT: Chong, Pele
APPLICANT: Muchin, Andrew D.
APPLICANT: Michal H.
TITLE OF INVENTION: TRANSFERRIN RECEPTOR GENES FILE REFERENCE: 1038-1221 MIS
CURRENT APPLICATION NUMBER: US/10/043,344
PRIOR APPLICATION NUMBER: 08/649,518
PRIOR FILING DATE: 2002-07-01
PRIOR FILING DATE: 1996-05-17
NUMBER OF SEQ ID NOS: 160
SOFTWARE: PARCHIN Ver. 2.1
SEQ ID NO 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Haemophilus influenzae
                  Query Match
Best Local Similarity lov.
4, Conservative
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Sequence 183032, Application US/10424599
Publication No. US20040031072A1
GENERAL INFORMATION:
APPLICANT: La Rosa Thomas J
APPLICANT: Kovalic David K
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
FILE REFERENCE: 38-21(53223) B
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                FRIOR APPLICATION NUMBER: US 60/201, 456

FRIOR APPLICATION NUMBER: US 09/632,366

FRIOR APPLICATION NUMBER: US 09/632,366

FRIOR APPLICATION NUMBER: US 09/632,366

FRIOR APPLICATION NUMBER: US 00/01-03

FRIOR APPLICATION NUMBER: US 00/10-04

FRIOR APPLICATION NUMBER: US 00/10-06

FRIOR APPLICATION NUMBER: US 00/10-05

FRIOR APPLICATION NUMBER: US 00/10-06

FRIOR APPLICATION NUMBER: PCT/US01/00666

FRIOR APPLICATION NUMBER: PCT/US01/00669

FRIOR PAPLICATION NUMBER: PCT/US01/00669

FRIOR PAPLICATION NUMBER: PCT/US01/00669

FRIOR PAPLICATION NUMBER: PCT/US01/00669

FRIOR PLING DATE: 2001-01-30

FRIOR PRING PLING DATE: 2001-01-30

FRIOR PLING DATE: 2001-01-30

FRIOR PLING DATE: 2001-01-30

FRIOR APPLICATION NUMBER: PCT/US01/00661

FRIOR APPLICATION NUMBER: PCT/US01/00661

FRIOR APPLICATION NUMBER: PCT/US01/00661

FRIOR APPLICATION NUMBER: PCT/US01/00661

FRIOR APPLICATION NUMBER: US 09/234,687

FRIOR APPLICATION NUMBER: US 09/234,687

FRIOR APPLICATION NUMBER: US 09/174,203

FRIOR PLING DATE: 2001-01-29

FRIOR PLING DATE: 2001-01-29

FRIOR APPLICATION NUMBER: US 09/734,687

FRIOR APPLICATION NUMBER: US 09/734,687

FRIOR APPLICATION NUMBER: US 09/734,687

FRIOR PLING DATE: 2001-01-29

FRIOR PLING DATE: 2001-01-39

FRIOR 
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Matches 4; Conserv
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Patent No. US20020048763A1

GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Penn, Sharron G.
APPLICANT: Rank, David R.
APPLICANT: Rank, David R.
APPLICANT: Chen, Wensheng
TITLE OF INVENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR TITLE OF INVENTION: HUMAN GENOME-DERIVED SINGLE EXPRESSION ANALYSIS BY MICROARRAY
FILE REPERENCE: Acomica-X-1
CURRENT PELLING DATE: 2001-05-23
FRIOR APPLICATION NUMBER: US 60/180,312
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 71, Application US/10372003A
Publication No. US20030215846A1
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Watt, Paul
APPLICANT: Thomas, Wayne
APPLICANT: Match Sed.
TITLE OF INVENTION: Methods of constructing and screening
TITLE OF INVENTION: Methods of Constructing and screening
TITLE OF INVENTION: Miverse expression libraries
FILE REFREENCE: FBRIC40.001CP1
CURRENT FILING DATE: 2003-02-21
PRIOR APPLICATION NUMBER: US 69/568,229
PRIOR FILING DATE: 2000-05-05
PRIOR FILING DATE: 2000-05-05
PRIOR FILING DATE: 2000-05-05
PRIOR FILING DATE: 2000-05-05
PRIOR FILING DATE: 1099-05-05
NUMBER OF SEQ ID NOS: 81
SEQ ID NO 71
LENGTH: 41
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                  95.0%; Score 19; DB 15; Length 38; 100.0%; Pred. No. 5.1e+02; tive 0; Mismatches 0; Indels
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95.0%; Score 19; DB 15; Length 41

Best Local Similarity 100.0%; Pred. No. 5.5e+02;

Matches 4; Conservative 0; Mismatches 0; Indels
PRICR APPLICATION NUMBER: PCT/GB98/02382
PRICR FILING DATE: 1998-08-07
PRICR APPLICATION NUMBER: GB 9716790.2
PRICR FILING DATE: 1997-08-07
NUMBER OF SEQ ID NOS: 63
SOFTWARE FRANCE FOR WINDOWN VERSION 4.0
SEQ ID NO 45
LENGTH: 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                       ORGANISM: Lophius piscatorius
IS-10-430-752A-45
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Best Local Similarity 100...
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IS-10-372-003A-71
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us-09-594-978a-3.rapb

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Sequence 205532, Application US/10424599
Publication No. US20040031072A1
GENERAL INFORMATION:
APPLICANT: La Rosa Thomas J
APPLICANT: La Rosa Thomas J
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE APPLICANT: 2003-04-28
CURRENT APPLICANTION NUMBER: US/10/424,599
CURRENT APPLICANTION NUMBER: US/303-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 205632
LENGTH: 52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
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ORGANISM: Homo sapiens
ORGANISM: Homo sapiens
FEATURE:
OTHER INFORMATION: MAP TO AL049833.3
OTHER INFORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 1
OTHER INFORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 0.96
OTHER INFORMATION: EXPRESSED IN HELALO, SIGNAL = 1.1
OTHER INFORMATION: EXPRESSED IN HERRY, SIGNAL = 1.1
OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 1.2
OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 1.1
OTHER INFORMATION: EXPRESSED IN PLACENTR, SIGNAL = 2.1
OTHER INFORMATION: EXPRESSED IN PLACENTR, SIGNAL = 2.1
OTHER INFORMATION: EXPRESSED IN PLACENTR, SIGNAL = 2.1
OTHER INFORMATION: SWISSPROT HIT: P11298, EVALUE 7.90e+00
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PRIOR FILING DATE: 2000-10-04
PRIOR APPLICATION NUMBER: US 60/236,359
PRADR FILING DATE: 2000-09-27
PRIOR FILING DATE: 2001-01-30
PRIOR FILING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: PCT/US01/00667
PRIOR PLING DATE: 2001-01-30
PRIOR PRIOR DATE: 2001-01-30
PRIOR PLING DATE: 2001-01-30
PRIOR PRIOR DATE: 2001-01-30
PRIOR PRIOR DATE: 2001-01-30
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PRIOR PRIING DATE: 2000-01-30
PRIOR PRIING DATE: 2000-01-30
PRIOR PRIING DATE: 2000-01-30
PRIOR PRIING DATE: 2000-01-30
PRIOR APPLICATION NUMBER: US 60/234,687
PRIOR APPLICATION NUMBER: US 09/608,408
PRIOR APPLICATION NUMBER: US 09/774,203
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Best Local Similarity 100.0%; Pred. No. 6.4e+02;
Matches 4; Conservative 0; Mismatches 0;
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Sequence 38166, Application US/09864761
Sequence 38166, Application US/09864761
GENERAL INFORMATION:
APPLICANT: Penn, Sharron G.
APPLICANT: Rank, David R.
APPLICANT: Hanzel, David R.
APPLICANT: Hanzel, David R.
APPLICANT: Chen, Wensheng
TITLE OF INVENTION: GENE EXPRESSION ANALYSIS BY MICROARRAY
TITLE OF INVENTION: GENE EXPRESSION ANALYSIS BY MICROARRAY
TITLE OF INVENTION: GENE EXPRESSION ANALYSIS BY MICROARRAY
TITLE OF INVENTION GENE EXPRESSION ANALYSIS BY MICROARRAY
FILE REPRESENCE: Acomica-X-1
CURRENT FILING DATE: 2001-05-23
PRIOR FILING DATE: 2000-02-04
PRIOR APPLICATION NUMBER: US 60/207,456
PRIOR PILING DATE: 2000-05-26
PRIOR FILING DATE: 2000-05-26
PRIOR FILING DATE: 2000-05-26
PRIOR FILING DATE: 2000-06-26
PRIOR PRILING DATE: 2000-06-26
PRIOR PRILING DATE: 2000-06-26
PRIOR APPLICATION NUMBER: GB 24263.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 171118, Application US/10424599
Sequence 171186, Application US/10424599
Publication No. US20040031072A1
GENERAL INFORMATION:
APPLICANT: La Rosa Thomas J
APPLICANT: Cao Vongwei
TITLE OF INVENTION: DAVIN Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
TITLE OF INVENTION: SO, Nucleic Acid Molecules Associated With
TITLE OF INVENTION: SO, Nucleic Acid Molecules Associated With
TITLE OF INVENTION: SO, Nucleic Acid Molecules Associated With
TITLE OF INVENTION: SO, Nucleic Acid Molecules Associated With
TITLE OF INVENTION: SO, Nucleic Acid Molecules Acid Mith
TITLE OF INVENTION: SO, Nucleic Acid Molecules Acid Mith
TITLE OF INVENTION: SO, Nucleic Acid Molecules Acid Mith
TITLE OF INVENTION: SO, Nucleic Acid Molecules Acid Mith
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TITLE OF INVENTION: SO, Nucleic Acid Molecules Acid Mith
TITLE OF INVENTION: SO, Nucleic Acid Molecules Acid Mith
TITLE OF INVENTION: SO, Nucleic Acid Molecules Acid Mith
TITLE OF INVENTION: SO, Nucleic Acid Molecules Acid Mith
TITLE OF INVENTION: Plants Acid Molecules Acid Mith
TITLE OF INVENTION: Plants Acid Molecules Acid Mith
TITLE OF INVENTION: Plants Acid Mith
TITLE OF INVENTION: Plants
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 95.0%; Score 19; DB 12; Length 43; Best Local Similarity 100.0%; Pred. No. 5.7e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: Clone ID: PAT_MRT3847_136291C.1.pep i-10-424-599-183032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OTHER INFORMATION: Clone ID: PAT_MRT3847_125715C.1.pep
                         CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
UNDRER OF SEQ ID NOS: 285684
SEQ ID NO 183032
LENGTH: 43
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Best Local Similarity 100.
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ORGANISM: Glycine max
                                                                                                                                                                                                                                                                                  TYPE: PRT
ORGANISM: Glycine max
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Gaps
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WESULY 203A-63

WESULY 203A-63

Sequence 63, Application US/10372003A

PUBLICANT: Watt. Paul

APPLICANT: Watt. Paul

TITLE OF INVENTION: diverse expression libraries

FILING DATE: 2000-02-21

FRIOR REPLICATION NUMBER: US 09/568,229

FRIOR APPLICATION NUMBER: US 60/132,711

FRIOR TILING DATE: 1999-06-05

SEQ ID NO 63

ILBNGTH: 55

TYPE: PRI

FRATURE:

OTHER INFORMATION: Frame

GOTHER INFORMATION: Frame

US-10-372-003A-63
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ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Synthetic clone BGF06 with first open reading
OTHER INFORMATION: frame
US-10-372-003A-67
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US-10-372-03A-67
; Sequence 67, Application US/10372003A
; Publication No. US2003015846A1
; Publication No. US20030215846A1
; GENERAL INFORMATION:
; APPLICANT: Watt, Paul
; APPLICANT: Thomas, Wayne
APPLICANT: Thomas, Wayne
; TITLE OF INVENTION: Machode of constructing and screening
; TITLE OF INVENTION: Machode of constructing and screening
; TITLE OF INVENTION: Machode of constructing and screening
; TITLE OF INVENTION: MACHODE of CONSTRUCTION (MYBER: US/10/372,003A
; CURRENT FILING DATE: 2000-05-05
; PRIOR FILING DATE: 2000-05-05
; PRIOR FILING DATE: 1999-06-05
; NUMBER OF SEQ ID NOS: 81
; SOFTWARE: PastSEQ for Windows Version 4.0
; SEQ ID NO 67
; LENGTH: 55
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100.0%; Pred. No. 7.3e+02;
Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 100.
Matches 4; Conservative
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Best Local Similarity
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                                                                  24 VAEF 27
                      2 VAEF 5
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15-10-444-599-192247
Sequence 192247, Application US/10424599
Publication No. US20040031072A1
GENERAL INFORMATION:
APPLICANT: La Royal Thomas J
APPLICANT: Avalic David K
APPLICANT: Anou Yihua
APPLICANT: Thou Yihua
APPLICANT: Anou Yihua
APPLICANT: Anou Yihua
APPLICANT: Anou Yihua
APPLICANT: Anou Yihua
APPLICANT: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
TITLE OF INVENTION: 18-21(5323) B
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 192247
LENGTH: 55
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Publication No. US20040031072A1

GENERAL INFORMATION:

APPLICANT: La Rosa Thomas J

APPLICANT: APPLICANT: Cao Yongwei

TITLE OF INVENTION: SON Nucleic Acid Molecules and Other Molecules Associated With

TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement

FILE REFERENCE: 39-21(5323)B

CURRENT APPLICANTON NUMBER: US/10/424,599'

CURRENT FILING DATE: 2003-04-28

NUMBER OF SEQ ID NOS: 285684

SEQ ID NO 233502

LENGTH: 55
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95.0%; Score 19; DB 12; Length 55;
Best Local Similarity 100.0%; Pred. No. 7.3e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                     Length 52;
                                                                                                                                                Query Match

95.0%; Score 19; DB 12; Length 52

Best Local Similarity 100.0%; Pred. No. 6.9e+02;

Matches 4; Conservative 0; Mismatches 0; Indels
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TYPE: PRT ORGANISM: Glycine max FEATURE: CTHER INFORMATION: Clone ID: PAT_MRT3847_27713C.1.pep IS-10-424-599-205632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTHER INFORMATION: Clone ID: PAT_MRT3847_52879C.1.pep
JS-10-424-599-233502
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100.0%; Pred. No. 7.3e+02;
tive 0; Mismatches 0;
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Best Local Similarity 100...
'..a 4; Conservative
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ORGANISM: Glycine max
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JS-10-424-599-233502
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Sequence 4, Application US/10219561 Publication No. US20030166567A1 GENERAL INFORMATION:
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         Gaps
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Publication No. US20030096737A1
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Weart, Ilona f.
TITLE OF INVENTION: Anti-Cancer and Wound Healing Compounds
FILE REFERENCE: 1443.035W01
CURRENT APPLICATION NUMBER: US/10/219,329
CURRENT FILING DATE: 2002-08-15
PRIOR APPLICATION NUMBER: US 60/312,376
PRIOR APPLICATION NUMBER: US 60/312,726
PRIOR APPLICATION NUMBER: US 60/312,726
PRIOR FILING DATE: 2001-08-16
NUMBER OF SEQ ID NOS: 23
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 4
LENGTH: 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 4, Application US/10153185
Sequence 4, Application US/10153185
Publication No. US20030148959A1
GENERAL INFORMATION:
APPLICANT: Unirk, Stephen
APPLICANT: Naik, Schail
TITLE OF INVENTION: Anti-Aging and Wound Healing Compounds
FILE REFERENCE: 1443.034U51
CURRENT APPLICATION NUMBER: US/10/153,185
CURRENT FILING DATE: 2002-08-13
PRIOR FILING DATE: 2001-12-21
PRIOR FILING DATE: 2001-08-16
NUMBER OF SEQ ID NOS: 20
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 4
LENGTH: 56
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95.0%; Score 19; DB 14; Length 56;
Best Local Similarity 100.0%; Pred. No. 7.5e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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         0; Indels
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100.0%; Pred. No. 7.5e+02;
tive 0; Mismatches 0;
         0; Mismatches
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Best Local Similarity 100.
Matches 4; Conservative
         4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT ORGANISM: Homo sapiens 3-10-219-329-4
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3-10-153-185-4
         Matches
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ESULT 32 S-10-219-561-4

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APPLICANT: La Rosa Thomas J
APPLICANT: La Rosa Thomas J
APPLICANT: En Rosa Thomas J
APPLICANT: Show Since I bavid K
APPLICANT: And Show Since I bard K
APPLICANT: Cao Yongwei
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REPERENCE: 38-21 (53223) B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 215734
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APPLICANT: Quirk, Schehen
APPLICANT: Malik, Schail
APPLICANT: Malik, Schail
APPLICANT: Malik, Schail
APPLICANT: Willanueva, Julie M.
TITLE CAMPERICANT: Anti-Aging and Wound Healing Compounds
FILE REFERENCE: 1443.008US2
CURRENT APPLICATION NUMBER: US 10/219,561
CURRENT PILING DATE: 2002-08-15
PRIOR APPLICATION NUMBER: US 10/133,185
PRIOR PILING DATE: 2001-12-21
PRIOR APPLICATION NUMBER: US 60/312,726
PRIOR PILING DATE: 2002-05-21
PRIOR PILING DATE: 2002-06-12
PRIOR PILING DATE: 2002-06-13
PRIOR FILING DATE: 2002-06-14
SPRIOR FILING DATE: 2002-06-15
SPRIOR FILING DATE: 2002-06-16
SPRIOR FILING DATE: 2002-06-17
SPRIOR FILING DATE: 2002-06-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          95.0%; Score 19; DB 14; Length 56; 100.0%; Pred. No. 7.5e+02; ive 0; Mismatches 0; Indel8
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100.0%; Pred. No. 7.6e+02;
tive 0; Mismatches 0;
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; Sequence 260762, Application US/10424599
; Publication No. US20040031072A1
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 215734, Application US/10424599
Publication No. US20040031072A1
GENERAL INFORMATION:
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APPLICANT: Kovalic David K
APPLICANT: Zhou Yihua
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Best Local Similarity 100...
Loca 4; Conservative
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Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; LENGTH: 56
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-219-561-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT
ORGANISM: Glycine max
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USESULT 37 SEQUENCE 4729.1

USEQUENCE 4729.1 APPLICATION US/09664761

FRETER No. USSONOGAR753A.

GRENEAL INPORMATION:

APPLICANT: Rank, Barron G.

APPLICANT: MARCH DAVIG R.

APPLICANT: Chem, WERNBERGE 2000-DERIVED GINGLE EXON NUCLEEC ACID PROBES USEFUL FOR TITLE OF USEFUL GAS APPLICANTON NUMBER: 1200-05-26

PRIOR APPLICANTON NUMBER: 1200-05-26

PRIOR APPLICANTON NUMBER: 2000-05-36

PRIOR PRIOR PRIOR DATE 2001-01-30

PRIOR PRIOR PRIOR 2001-05-30

PRIOR PRIOR PRIOR 2001-05-30

PRIOR PRIOR PRIOR 2001-05-30

PRIOR PRIOR PRIOR 2001-05-30

PRIOR PRIOR APPLICANTON NUMBER: 2001-01-30

PRIOR PRIOR APPLICANTON NUMBER: 2001-01-30

PRIOR PRIOR APPLICANTON NUMBER: 2001-01-30

PRIO
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US-10-424-599-214930
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100.0%; Pred. No. 7.8e+02;
tive 0; Mismatches 0;
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 214930
LENGTH: 58
                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                   TYPE: PRT
ORGANISM: Glycine max
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Sequence 214930, Application US/10424599

Publication No. US20040031072A1

GENERAL INFORMATION:
APPLICANT: LA Rose Thomas J

APPLICANT: Kovalic David K

APPLICANT: Cao Vinua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21 (53223) B
         APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REPRENCE: 38-21 (53223) B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 260762
LENGTH: 57
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OTHER INFORMATION: synthetic clone BGF24 with first open reading;

OTHER INFORMATION: frame
US-10-372-003A-75
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Publication No. US20030215846A1
GENERAL INFORMATION:
APPLICANT: Watt, Paul
APPLICANT: Thomas, Wayne
APPLICANT: Thomas, Wayne
TITLE OF INVENTION: Methods of constructing and screening
TITLE OF INVENTION: Methods of constructing and screening
TITLE OF INVENTION: Methods of CONSTRUCTION
TITLE OF INVENTION: Methods of CONSTRUCTION NUMBER: US/10/372,003A
CURRENT APPLICATION NUMBER: US/10/372,003A
CURRENT PILING DATE: 2000-05-05
PRIOR PILING DATE: 2000-05-05
PRIOR FILING DATE: 2000-05-05
PRIOR FILING DATE: 1999-05-05
NUMBER OF SEQ ID NOS: 81
SOFTWARE: FastSEQ for Windows Version 4.0
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100.0%; Pred. No. 7.6e+02;
tive 0; Mismatches 0;
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95.0%; Score 19; DB 12; Sest Local Similarity 100.0%; Pred. No. 7.6e+02; Matches 4; Conservative 0; Mismatches 0;
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Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                           ORGANISM: Glycine max
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LENGTH: 57
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APPLICANT: Idler, Charles S.
APPLICANT: Adler, Jon Elliot
APPLICANT: Adler, Jon Elliot
APPLICANT: Adler, Jon Elliot
APPLICANT: Hoon, Mark
APPLICANT: Hoon, Mark
APPLICANT: The Regents of the University of California
APPLICANT: The Regenter of the United States of America
APPLICANT: The Government of the United States of America
APPLICANT: Department of Health and Human Services
TITLE OF INVENTION: T2R, a No. US20040038312Alel Family of Taste Receptors
FILE REFERENCE: 02307E-098020US
CURRENT APPLICATION WHERE: 2003-06-30
PRIOR TILING DATE: 2003-06-30
PRIOR APPLICATION NUMBER: US 09/393,634
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Sequence 80, Application US/10383982

Publication No. US20030157568A1

GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Adler, Jon Elliot
APPLICANT: Ryba, Nick
APPLICANT: The Regents of the University of California
APPLICANT: The Regents of the University of the APPLICANT: The Regents of the University of the APPLICANT: The Regents of the University of the APPLICANT: Department of the University of the APPLICANT: Department of Hallh and Human Services

APPLICANT: Department of Hallh and Human Services

TITLE OF INVENTION: 8F, a No. US20030157568A1e1 Family of Taste Receptors

FILE REFERENCE: 02307F-098000US

CURRENT APPLICATION NUMBER: US/10/383,982
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                                                                                                                                                                                                                                                                                 Length 68;
                                                                                                                                                                                                                                                                              95.0%; Score 19; DB 11; I 100.0%; Pred. No. 9.1e+02; tive 0; Mismatches 0;
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NUMBER OF SEQ ID NOS: 9068
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 40
LENGTH: 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 80, Application US/10364861
Publication No. US20040038312A1
GENERAL INFORMATION:
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SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 80
LENGTH: 68
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ORGANISM: Homo sapiens
                                                                                                                                            TYPE: PRT
ORGANISM: Homo sapiens
US-09-864-408A-40
                                                                                                                                                                                                                                                                                                                           Best Local Similarity
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US-10-383-982-80
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                                                                                                                                                                                                                                                                                             Query Match
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Sequence 40, Application US/09864408A
Sequence 40, Application No. 220040009474A1
GENERAL INFORMATION:
APPLICANT: Leach, Martin D.
APPLICANT: Leach, Martin D.
APPLICANT: Shinkets, Richard A.
TILLE OF INVENTION: No. US20040009474A1e1 Human Polymucleotides and Polypeptides Encornts Reference: 21402-012
CURRENT APPLICATION NUMBER: US/09/864,408A
CURRENT FILING DATE: 2001-05-24
PRIOR FILING DATE: 2000-05-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Zuker, Charles S.
APPLICANT: Zuker, Charles S.
APPLICANT: Adler, Jon Elliot
APPLICANT: Ryba, Nick
APPLICANT: Ryba, Nick
APPLICANT: Mueller, Ken
APPLICANT: Hoon, Mark
APPLICANT: Hoon, Mark
APPLICANT: The Regents of the United States of America
APPLICANT: The Government of the United States of America
APPLICANT: Department of Health and Human Services
APPLICANT: Department of Health and Human Services
TILE REFERENCE: 02307E-098000US
CURRENT APPLICATION NUMBER: US/09/393,634
CURRENT APPLICATION NUMBER: US/09/393,634
CURRENT FILING DATE: 1999-09-10
NUMBER OF SEQ ID NOS: 92
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 80
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                                                                                                                                        OTHER INFORMATION: MAP TO ACO09079.4

OTHER INFORMATION: EXPRESSED IN PIACENTA, SIGNAL = 0.54

OTHER INFORMATION: EXPRESSED IN FEAL LIVER, SIGNAL = 0.77

OTHER INFORMATION: EXPRESSED IN BOUR MARROW, SIGNAL = 0.65

OTHER INFORMATION: EXPRESSED IN BADUL LIVER, SIGNAL = 0.74

OTHER INFORMATION: EXPRESSED IN BADUL LIVER, SIGNAL = 0.74

OTHER INFORMATION: EST HUMAN HIT: A7756022.1, EVALUE 6.00e-28

OTHER INFORMATION: SWISSPROT HIT: P56315, EVALUE 2.00e+00
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              95.0%; Score 19; DB 9; Length 60;
100.0%; Pred. No. 8e+02;
ive 0; Mismatches 0; Indels
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Patent No. US20020051997A1
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OTHER INFORMATION: human GR24
S-09-393-634-80
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Best Local Similarity 100.
Matches 4; Conservative
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Best Local Similarity 100.
Matches 4; Conservative
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ORGANISM: Homo sapiens
                                                     TYPE: PRT
ORGANISM: Homo sapiens
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S-09-864-408A-40
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3-09-393-634-80
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Gaps
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                                                                                 ORGANISM: Homo sapiens
ORGANISM: Homo sapiens
ORGANISM: Homo sapiens
OTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 0.81
OTHER INFORMATION: EXPRESSED IN ADULI LIVER, SIGNAL = 0.91
OTHER INFORMATION: EXPRESSED IN BAIN, SIGNAL = 0.05
OTHER INFORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 0.72
OTHER INFORMATION: EXPRESSED IN FETAL LIVER, SIGNAL = 0.72
OTHER INFORMATION: EXPRESSED IN FETAL LIVER, SIGNAL = 0.71
OTHER INFORMATION: EST_HUMAN HIT: BESS9987.1, EVALUE 2.00e-03
US-09-864-761-45716
                                                                                                                                                                                                                                                                                                                                                                                                                                                   95.0%; Score 19; DB 9; Length 69; 100.0%; Pred. No. 9.2e+02; ive 0; Mismatches 0; Indels
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SOFTWARE: Annomax Sequence Listing Engine vers. 1.1 SEQ ID NO 45716
LENGTH: 69
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100.0%; Pred. No. 9.2e+02;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
APPLICANT: MAKAGAMA, SATOSHI
APPLICANT: MAIZOGUCHI, HIROSHI
APPLICANT: MINDO, SEITKO
APPLICANT: ANDO, SEITKO
APPLICANT: OCHIAI, KERKO
APPLICANT: TANESHI, MAKHIKO
APPLICANT: TANESHI, MAKHIKO
APPLICANT: TANESHI, MASATO
APPLICANT: SENOH, AKHINO
APPLICANT: SENOH, AKHO
APPLICANT: OZAKI, AKIO
ITILE OF INVENTION: NOVEL POLYNUCLEOTIDES
FILE REFERENCE: 249-125
CURRENT APPLICATION NUMBER: US/09/738,626
CURRENT APPLICATION NUMBER: UP 99/377484
FRIOR PILING DATE: 2000-04-07
PRIOR APPLICATION NUMBER: JP 99/377484
FRIOR PILING DATE: 1000-04-07
PRIOR PILING DATE: 2000-08-03
NUMBER: OF SEQ ID NOS: 7059
SEQ ID NO 5596
LENGTH: 69
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 5596, Application US/09738626
Publication No. US20020197605A1
GENERAL INFORMATION:
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US-09-738-626-5596
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Best Local Similarity 100.
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Best Local Similarity 100.
Matches 4; Conservative
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Sequence 45716, Application US/09864761

Patent No. US20020048763A1

GENERAL INFORMATION:
APPLICAMT: Penn, Sharron G.
APPLICAMT: Rank, David R.
APPLICAMT: Rank, David R.
APPLICAMT: Chen, Wensheng
TITLE OF INVENTION: GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR TITLE OF INVENTION: GENE EXPRESSION ANALYSIS BY MICROARRAY
FILE REFERENCE: Acomica-X-1
CURRENT APPLICATION NUMBER: US/09/864,761
CURRENT FILING DATE: 2001-05-23
PRIOR APPLICATION NUMBER: US 60/180,312
PRIOR PRIOR DATE: 2000-02-04
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95.0%; Score 19; DB 14; I

Best Local Similarity 100.0%; Pred. No. 9.1e+02;

Matches 4; Conservative 0; Mismatches 0;
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PRIOR APPLICATION NUMBER: US 09/632,366
PRIOR PILING DATE: 2000-08-03
PRIOR PILING DATE: 2000-08-04
PRIOR PILING DATE: 2000-09-07
PRIOR APPLICATION NUMBER: US 60/236,359
PRIOR APPLICATION NUMBER: US 60/236,359
PRIOR APPLICATION NUMBER: PCT/US01/00666
PRIOR PILING DATE: 2001-01-30
PRIOR PELING DATE: 2001-01-30
                              PRIOR APPLICATION NUMBER: US/09/393,634
PRIOR FILING DATE: 1999-09-10
NUMBER OF SEQ ID NOS: 92
SEGTWARE: Patentin Ver. 2.1
SEQ ID NO 80
LENGTH: 68
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PRIOR APPLICATION NUMBER: US 60/207,456
PRIOR FILING DATE: 2000-05-26
            2003-03-07
                                                                                                                                                                                                                                                                                                OTHER INFORMATION: human GR24
                                                                                                                                                                                             TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
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...crliCANT: Zhou Yihna
APPLICANT: Zhou Yihna
TITLE OF INVENTION: SOy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: 90-21(53223) B
GURRENT APPLICATION NUMBER: US/10/424,599
CURRENT PILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 202605
LENGTH: 71
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Sequence 30346, Application US/10029386

Publication No. US20030194704A1

GENERAL INFORMATION:
APPLICANT: Penn, Sharron G.
APPLICANT: Rank, David R.
APPLICANT: Hanzel, David K.
TITLE OF INVENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR TITLE OF INVENTION: BXPRESSION ANALYSIS TWO
FILE REFERENCE: AEOMICA-X-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: LA ROSA Thomas J
APPLICANT: LA ROSA Thomas J
APPLICANT: LA ROSA Thomas J
APPLICANT: AND VIDE DAVIG K
APPLICANT: Zhou Yihua
APPLICANT: Zhou Yihua
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REPRENCE: 30-10(53223)
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEG ID NO 274981
LENGTH: 71
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US-10-424-599-202605
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100.0%; Pred. No. 9.5e+02;
tive 0; Mismatches 0;
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LOCATION: (1)..(71)
LOCATION: (1)..(71)
PERT INFORMATION: unsure at all Xaa locations
PEATURE INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 274981, Application US/10424599
Publication No. US20040031072A1
GENERAL INFORMATION:
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Best Local Similarity 100...
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Best Local Similarity 100.
Matches 4; Conservative
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ORGANISM: Glycine max
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
ORGANISM: Glycine max
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US-10-424-599-274981
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5-10-029-386-28645
5-10-029-386-28645
Sequence 28645, Application US/10029386
Publication No. US20030194704A1
GENERAL INFORMATION:
APPLICANT: Penn, Sharron G.
APPLICANT: Hanzel, David K.
TITLE OF INVENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR CITLE REFERENCE: ABOMICA-X-2
CURRENT APPLICANTION NUMBER: US. 110/029,386
CURRENT FILING DATE: 2001-12-20
NUMBER OF SEQ ID NOS: 34288
SOFTWARE Annomax Sequence Listing Engine vers. 1.1
SEQ ID NO 28645
                                                                                                                                                 APPLICANT: Kovalic David K
APPLICANT: Zhou Yihua
APPLICANT: Zhou Yihua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53223)B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 185385
LENGTH: 69
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OTHER INFORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 8.8

OTHER INFORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 9.3

OTHER INFORMATION: EXPRESSED IN PELACENTA, SIGNAL = 9.3

OTHER INFORMATION: EXPRESSED IN PELACENTA, SIGNAL = 5.8

OTHER INFORMATION: EXPRESSED IN PELACENTA, SIGNAL = 8.7

OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 5.7

OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 5.7

OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 8.7

OTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 8.7

OTHER INFORMATION: SYPRESSED IN HEART, SIGNAL = 7.7

OTHER INFORMATION: SYPRESSED IN HEART, SIGNAL = 7.7

OTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 7.7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 69;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OTHER INFORMATION: Clone ID: PAT_MRT3847_138417C.1.pep
;-10-424-599-185385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  95.0%; Score 19; DB 12; I 100.0%; Pred. No. 9.2e+02; Live 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 202605, Application US/10424599 Publication No. US20040031072A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: La Rosa Thomas J
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Best Local Similarity 100.
Matches 4; Conservative
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Best Local Similarity 100.
Matches 4; Conservative
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ORGANISM: Homo sapiens
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ORGANISM: Glycine max
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     43 VAEF 46
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                                                                                                                                                                                      CITY: ARINGTON
STATE: VICENIA
COUNTRY: U.S.A.
ZIP: 22201-4714
COMPUTER READABLE FORM:
COMPUTER: FISHER FORDS MISH
COMPUTER: IBM PC COMPATIBLE
COMPUTER: IBM PC COMPATIBLE
COMPUTER: BATERIE: PC-DOS/MS-DOS
SOFTWARE: PATENIEN PC-DOS/MS-DOS
CORTWARE: PATENIEN PC-DOS/MS-DOS
CORTWARE: PATENIEN PATA: US/DOS/MS-DOS
CLASSIFICATION NUMBER: US/08/894,139
FILING DATE: 08-Aug-2002
CLASSIFICATION NUMBER: US/08/894,139
ATTOMORY AGENT INFORMATION:
NAME: WILLSON, MARY J.
REGISTRATION NUMBER: 32,955
REFERENCE/DOCKET NUMBER: 620-22
TELEPHONE: (773) 816-4000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             95.0%; Score 19; DB 14; Length 74;
100.0%; Pred. No. 9.9e+02;
tive 0; Mismatches 0; Indels
               HIJMANS, ELEANORE M.
TITLE OF INVENTION: TRANSCRIPTION FACTOR E2F-5
NUMBER OF SEQUENCES: 25
CORRESPONDENCE ADDRESS:
ADDRESSEE: NIXON & VANDERHYE P.C.
STREET: 1100 NORTH GLEBE ROAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 9071, Application US/10156761
Publication No. US20030119018A1
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: OMURA, SATOSHI
APPLICANT: ISHIKAWA, UUN
APPLICANT: HEBA, TADAYOSHI
APPLICANT: SHIRAWA, HIROSHI
APPLICANT: SHIRAWA, HIROSHI
APPLICANT: HATTORN WOYEL POLYNUCLEOTIDES
TILE OF INVENTION: NOVEL POLYNUCLEOTIDES
TILE REFERENCE: 249-262
CURRENT APPLICATION NUMBER: US/10/156,761
CURRENT PILING DATE: 2002-05-29
PRIOR PILING DATE: 2001-05-30
PRIOR PLING DATE: 2001-05-30
PRIOR PLING DATE: 2001-06-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE: peptide
SEQUENCE DESCRIPTION: SEQ ID NO: 10:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
LENGTH: 74 amino acids
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Best Local Similarity 100.
Matches 4; Conservative
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Sequence 29320, Application US/10029386
Sequence 29320, Application US/20030194704A1
GENERAL INFORMATION:
APPLICAMT: Penn, bharron G.
APPLICAMT: Rank, David R.
APPLICAMT: Hanzel, David R.
APPLICAMT: HANZEL DAVID R.
APPLICAMT: HANZEL DAVID R.
APPLICAMT: BERESSON ENGINEERS TWO
TITLE OF INVENTION: EXPRESSION ANALYSIS TWO
FILE REFERENCE: AEOMICA-X-2
CURRENT APPLICATION NUMBER: US/10/029,386
CURRENT PILING DATE: 2001-12-20
NUMBER OF SEQ ID NOS: 34288
SOCTHARRE: Annomax Sequence Listing Engine vers. 1.1
SEQ ID NO 29320
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INFORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 0.99
INFORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 0.6
INFORMATION: EXPRESSED IN HELA, SIGNAL = 3.4
INFORMATION: EXPRESSED IN BETAL LIVER, SIGNAL = 1.1
INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 0.66
INFORMATION: EXPRESSED IN LUNG, SIGNAL = 0.64
INFORMATION: SWISSPROT HIT: P14650, EVALUE 6.00e-14
                                                                                                                                                                                                                                                           OTHER INFORMATION: EXPRESSED IN FETAL LIVER, SIGNAL = 0.82
OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 1.1
OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 1.1
OTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 0.73
OTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 6.2
OTHER INFORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 1
OTHER INFORMATION: SWISSPROT HIT: P21333, EVALUE 5.00e-22
IS-10-029-386-30348
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CURRENT APPLICATION NUMBER: US/10/029,386
CURRENT FILING DATE: 2001-12-20
NUMBER OF SEQ ID NOS: 34288
SOFTWARE: Annomax Sequence Listing Engine vers. 1.1
SEQ ID NO 30348
LENGTH: 71
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Publication No. US20030022260A1
GENERAL INCORMATION:
APPLICANT: LA THANGUE, NICHOLAS B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OTHER INFORMATION: MAP TO CHR2.1 OTHER INFORMATION: EXPRESSED IN OTHER INFORMATION: EXPRESSED IN OTHER INFORMATION: EXPRESSED IN OTHER INFORMATION: EXPRESSED IN OTHER INFORMATION: EXPRESSED IN
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ORGANISM: Homo sapiens
                                                                                                                                                                               TYPE: PRT
ORGANISM: Homo sapiens
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US-10-214-188-10
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SGGUENCE 253204
SGGUENCE 253204
SGGUENCE 253204, Application US/10424599
SGGUENCE 253204, Application No. US20040031072A1
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: La Rosa Thomas J
APPLICANT: Arou Yihua
APPLICANT: Canou Yihua
APPLICANT: Cano
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Sequence 211908, Application US/10424599
Fublication No. US20040031072A1
GENERAL INFORMATION:
APPLICANT: LA ROSA Thomas J
APPLICANT: Kovalic David K
APPLICANT: Too Yongwel
APPLICANT: Cao Yongwel
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
IENGTH: 77
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Best Local Similarity 100.0%; Pred. No. 1e+03;
Matches 4; Conservative 0; Mismatches 0; Indels
         Indels
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COATION: (1)...(76)

OTHER INFORMATION: unsure at all Xaa locations

FATURE: CATURE INFORMATION: Clone ID: PAT_MRT3847_70669C.1.pep

US-10-424-599-253204
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; OTHER INFORMATION: Clone ID: PAT_MRT3847_3337C.1.pep
US-10-424-59-211908
             ;
0
             Mismatches
             ö
             4; Conservative
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ORGANISM: Glycine max
FEATURE:
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ORGANISM: Glycine max
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US-10-424-599-211908
                                                                                           2 VAEF 5
             Matches
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Publication No. US20440031072A1
GENERAL INFORMATION:
APPLICANT: La Rosa Thomas J
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
TITLE REFERENCE: 38-21 (53223)
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT PILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 155128
LENGTH: 75
LENGTH
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Sequence 261424, Application US/10424599
Sublication No. US20040031072A1
GENERAL INFORMATION:
APPLICANT: La Rosa Thomas J
APPLICANT: Show Yinua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Soy Nucleic Acid Molecules Associated With
TITLE REFERENCE: 38-21(53231)B
CURRENT APPLICATION NUMBER: US/10/424,599
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 261424
LENGTH: 75
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                                                                                                                                    95.0%; Score 19; DB 14; Length 74;
100.0%; Pred. No. 9.9e+02;
tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      95.0%; Score 19; DB 12; Length 75; 100.0%; Pred. No. 1e+03; tive 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY: unsure
LOCATION: (1)..(75)
OTHER INFORMATION: unsure at all Xaa locations
ORGANISM: Streptomyces avermitilis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100.
                                                                                                                                                                                  Best Local Similarity 100.
Matches 4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
ORGANISM: Glycine max
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Best Local Similarity
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3-10-424-599-156128
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                                                                                                                                             Query Match
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US-10-424-599-262701

US-10-424-599-262701

Sequence 262701, Application US/10424599

Publication No. US20040031072A1

GENERAL INFORMATION:

APPLICANT: La Rosa Thomas J

APPLICANT: Acvalic David K

APPLICANT: Cao Yongwei

TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With

TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement

TITLE OF INVENTION: NUMBER: US/10/424,599

CURRENT FILING DATE: 2003-04-28

UNDER OF SEQ ID NOS: 285684

SEQ ID NO 262701

LENGTH: 78
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APPLICANT: Rowall David K
APPLICANT: A Rowall David K
APPLICANT: Show Yihna
APPLICANT: Show Yihna
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REPERENCE: 38-21(53223)B
FILE REPERENCE: 38-21(53223)B
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
ENGIN: 78
LENGTH: 78
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                                                                                                                                                                                                                                                                                                                                                                                         h Similarity 100.0%; Score 19; DB 14; Length 77; Similarity 100.0%; Pred. No. 1e+03; 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                  TYPE: PRT
ORGANISM: Homo sapiens
OCHAEN INPORMATION: MAP TO ACCO4186.1
OTHER INPORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 0.76
OTHER INPORMATION: EXPRESSED IN LUNG, SIGNAL = 1.5
OTHER INPORMATION: EXPRESSED IN HELA, SIGNAL = 1.9
OTHER INPORMATION: EXPRESSED IN HELA, SIGNAL = 1.9
OTHER INPORMATION: EXPRESSED IN HELA, SIGNAL = 1.9
US-10-029-386-32709
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OTHER INFORMATION: Clone ID: PAT_MRT3847_117339C.1.pep
US-10-424-599-162039
CURRENT FILING DATE: 2001-12-20
NUMBER OF SEQ ID NOS: 34286
SOFTWARRS: Annomax Sequence Listing Engine vers. 1.1
SEQ ID NO 32709
LENGTH: 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-424-599-162039
; Sequence 162039, Application US/10424599
; Publication No. US20040031072A1
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity 100.
Matches 4; Conservative
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Best Local Similarity
Matches 4; Conserv
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Sequence 32709, Application US/10029386
Publication No. US20030194704A1
GENERAL INFORMATION:
APPLICANT: Rank, David K.
APPLICANT: Rank, David K.
TITLE OF INVENTION: EXPRESSION ANALYSIS TWO
FILE OF INVENTION: EXPRESSION ANALYSIS TWO
GURRENT APPLICATION NUMBER: US/10/029,386
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                                                                                                               Sequence 7493, Application US/10335977
Publication No. US20040052799A1
GENERAL INFORMATION:
APPLICANT: DOUGLAS SMITH et al
APPLICANT: DOUGLAS SMITH et DAND AMINO ACID SEQUENCES TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES DIACLE OF INVENTION: DOUGLAS SMITH SMITH SPEUTICS
DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 95.0%; Score 19; DB 12; Length 77; Best Local Similarity 100.0%; Pred. No. 1e+03; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION DATA:

APPLICATION DATA:

PILING DATE: 30-Dec-2002

PRIOR APPLICATION DATA:

APPLICATION DATE: 08/993,002

FILING DATE: 17-DEC-1997

ATTORNEY/AGENT INPORMATION:

NAME: Mandragouras, Amy E.

REGISTRATION NUMBER: 36,207

REFERENCE/DOCKET NUMBER: 36,207

REFERENCE/DOCKET NUMBER: 36,207

TELECOMMUNICATION INFORMATION:

TELEPHONE: (617) 72-74-400

TELEFRAK: (617) 742-4214

INFORMATION FOR SEC ID NO: 7493:

SEQUENCE CHARACTERISTICS:

LENGTH: 77 amino acids
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LOCATION: (B) LŌCATION 1...77
SEQUENCE DESCRIPTION: SEQ ID NO: 7493:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ZIP: 02109-1875
COMPUTER READABLE FORM:
MEDIUM TYPE: CD/ROM ISO9660
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: Windows NT 4.0
SOFTWARE: UNIX
                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 10031
CORRESPONDENCE ADDRESS:
ADDRESSE: LAHIVE & COCKFIELD
STREET: 28 State Street
CITY: Boston
STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: YES
ORIGINAL SOURCE:
ORGANISM: Helicobacter pylori
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 40 VAEF 43
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                                                                  RESULT 56
JS-10-335-977-7493
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TYPE: PRT
ORGANISM: Homo sapiens
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ORGANISM: Homo sapiens
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Sequence 216097, Application US/10424599
Eublication No. US20040031072A1
GENERAL INFORMATION:
APPLICANT: LA ROSA Thomas J
APPLICANT: Kovalic David K
APPLICANT: Applicant: Cao Yongwei
TITLE OF INVENTION: Son Nucleic Acid Molecules and Other Molecules Associated With TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement FILLE REFERENCE: 38 21(5323)B
TURENT APPLICATION NUMBER: US/10/424,599
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 216097
LENGTH: 80
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Sublication No. US20040044181A1

GENERAL INFORMATION:

APPLICANT: Hyeaq, Inc

TITLE OF INVENTION: NOVEL NUCLEIC ACIDS AND POLYPEPTIDES
FILE REFERENCE: 21272-113 (793)

CURRENT APPLICATION NUMBER: US/10/363,616

CURRENT FILING DATE: 2000-09-01

PRIOR FILING DATE: 2000-09-01

NUMBER OF SEQ ID NOS: 490

SEQ ID NO 368

LENGTH: 79
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                                                                                                         95.0%; Score 19; DB 12; Length 78; 100.0%; Pred. No. 1e+03; ive 0; Mismatches 0; Indels
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OTHER INFORMATION: Clone ID: PAT_MRT3847_37165C.1.pep
S-10-424-599-216097
                                                   OTHER INFORMATION: Clone ID: PAT_MRT3847_79240C.1.pep
3-10-424-599-262701
                                                                                                                     100.0%; Pred. w..
                                                                                           Query Match
Best Local Similarity 100.0
....nes 4; Conservative
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Best Local Similarity 100.
Matches 4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Homo sapiens
5-10-363-616-368
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ORGANISM: Glycine max
TYPE: PRT
ORGANISM: Glycine max
FEATURE:
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Best Local Similarity
Matches 4; Conserva
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S-10-424-599-216097
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                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OP SEQ ID NOS: 285684
SEQ ID NO 201853
LENGTH: 85
LENGTH: 85
LENGTH: 85
FEATURE:
NAME/KEY: unsure
LOCATION: (1) .. (85)
OTHER INFORMATION: unsure at all Xaa locations
FEATURE:
FEATURE:
COTHER INFORMATION: Clone ID: PAT_MRT3847_24299C.1.pep
US-10-424-599-201853
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: Identification of Essential Genes in TITLE OF INVENTION: Prokaryotes FILE REPERNCE: ELITRA.011A CURRENT APPLICATION NUMBER: US/09/815,242 CURRENT FILING DATE: 2001-03-21
                                                                                                                                                                                                                                                                                                                                                             DB 12; L
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Best Local Similarity 100.0%; Pred. No. 1.2e+03;
Matches 4; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT AFPLICATION NUMBER: 60/191,079
PRIOR APPLICATION NUMBER: 60/191,078
PRIOR PLINED DATE: 2001.03-21
PRIOR PLINED DATE: 2000.03-21
PRIOR PLINED DATE: 2000.03-21
PRIOR FILING DATE: 2000.05-23
PRIOR FILING DATE: 2000.05-26
PRIOR FILING DATE: 2000.05-26
PRIOR FILING DATE: 2000.10-23
PRIOR FILING DATE: 2000.10-23
PRIOR FILING DATE: 2000.10-23
PRIOR FILING DATE: 2000.11-27
PRIOR FILING DATE: 2000.11-27
PRIOR APPLICATION NUMBER: 60/253,625
PRIOR FILING DATE: 2000.11-27
PRIOR FILING DATE: 2000.11-27
PRIOR FILING DATE: 2000.11-27
PRIOR FILING DATE: 2001.22
PRIOR FILING DATE: 2001.22
PRIOR FILING DATE: 2001.12-26
NUMBER OF SEQ ID NOS: 14110
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 1224
                                                                                                                                                                                                                                                                                                                                                               Score 19;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 11224, Application US/09815242
Patent No. US20020061569A1
GENBEAL INFORMATION:
APPLICANT: Haselbeck, Robert
APPLICANT: Ohlsen, Karl L.
APPLICANT: Zyskind, Judith W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Haemophilus influenzae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Ohlsen, Kari L.
APPLICANT: Zyskind, Judith W.
APPLICANT: Wall, Daniel
APPLICANT: Trawick, John D.
APPLICANT: Carr, Grant J.
APPLICANT: Xamanoto, Robert T.
APPLICANT: Xu, H. Howard
                                                                                                                                                                                                                                                                                                                                                               95.0%;
100.0%;
                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity 100.
Matches 4; Conservative
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     APPLICANT: Hu, Ping
APPLICANT: Recipon, Herve
APPLICANT: Rarra, Ralpana
APPLICANT: Rarra, Ralpana
APPLICANT: Carferkey, Robert
APPLICANT: Carferkey, Robert
APPLICANT: Liu, Congming
APPLICANT: Liu, Chenghua
TITLE OF INVENTION: Compositions and Methods Relating to Breast Specific Genes and Pr
FILE REFERENCE: DEX-0312
CURRENT PELING DATE: 2002-02-14
PRIOR APPLICATION NUMBER: 60/268,999
PRIOR FILING DATE: 2001-02-15
PRIOR SED ID NOS: 210
SOFTWARE: Patentin version 3.1
SEQ ID NO 125
LENGTH: 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 155636, Application US/10424599
Publication No. US20040031072A1
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: La Rosa Thomas J
APPLICANT: Cao Yongwei
TITLE OF INVENTION: David K
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REPERENCE: 38-21(51323)B
CURRENT APPLICATION NUMBER: US/10/424,599
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 155636
LENGTH: 85
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Publication No. US20040031072A1
GENERAL INFORMATION:
APPLICANT: LA Rose Thomas J
APPLICANT: Kovalic David K
APPLICANT: Cao Yihua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53223)B
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95.0%; Score 19; DB 12; Length 85;
Best Local Similarity 100.0%; Pred. No. 1.1e+03;
Matches 4; Conservative 0; Mismatches 0; Indels
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1.1e+03;
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US-10-424-599-155636
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Best Local Similarity 100.
Matches 4; Conservative
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JS-10-078-090-125
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12 VAEF 15
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Sequence 58489, Application US/10282122A
Publication No. US20040029129A1
GENERAL INFORMATION:
APPLICANT: Mang, Liangeu
APPLICANT: Mang, Liangeu
APPLICANT: Malone, Cheryl
APPLICANT: Daniel
APPLICANT: Trawick, John
APPLICANT: Yamanoto, Robert
APPLICANT: Wil, H.
TITLE OF INVENTION: Identification of Essential Genes in Microorganisms
FILE REPRENCE: ELITRA.034
CURRENT APPLICATION NUMBER: US/10/282,122A
CURRENT FILING DATE: 2003-02-20
PRIOR PILING DATE: 2000-03-21
PRIOR APPLICATION NUMBER: 60/206,848
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                                       S-US-11245, Application US/09815242
Patent No. US20020061569A1
GENERAL INFORMATION:
APPLICANT: Haselbeck, Robert
APPLICANT: APPLICANT: Oblsen, Kari L.
APPLICANT: Oblsen, Kari L.
APPLICANT: Trawick, John D.
APPLICANT: Yamanoto, Robert T.
APPLICANTON NUMBER: 60/191,078
PRIOR FILING DATE: 2000-05-25
PRIOR APPLICATION NUMBER: 60/207,727
PRIOR APPLICATION NUMBER: 60/207,727
PRIOR APPLICATION NUMBER: 60/207,727
PRIOR APPLICATION NUMBER: 60/25,931
PRIOR FILING DATE: 2000-12-22
PRIOR APPLICATION NUMBER: 60/257,931
PRIOR FILING DATE: 2000-12-22
PRIOR APPLICATION NUMBER: 60/257,931
PRIOR APPLICATION NUMBER: 60/257,931
PRIOR FILING DATE: 2000-12-22
PRIOR APPLICATION NUMBER: 60/257,931
PRIOR APPLICATION NUMBER: 60/257,931
PRIOR APPLICATION NUMBER: 60/257,931
PRIOR APPLICATION NUMBER: 60/257,931
PRIOR FILING DATE: 2001-02-16
NUMBER OF SEQ ID NOS: 14110
SEQ ID NO 11245
LENGTH: 89
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Best Local Similarity 100.0%; Pred. No. 1.2e+03;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT ORGANISM: Haemophilus influenzae
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5-09-815-242-11245
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GENERAL INCRAMICANT
APPLICANT: Wand, Liangsu
APPLICANT: Zamudio, Carlos
APPLICANT: Malone, Cherl
APPLICANT: Malone, Cherl
APPLICANT: Malone, Cherl
APPLICANT: Malone, Cherl
APPLICANT: Oblesn, Kari
APPLICANT: Zyskind, Judith
APPLICANT: Trawick, John
APPLICANT: Now HER: Us/10/262,122A
CURRENT APPLICATION NUMBER: 60/202
PRIOR FILING DATE: 2000-05-23
PRIOR FILING DATE: 2000-05-24
PRIOR FILING DATE: 2000-05-26
PRIOR FILING DATE: 2000-09-06
PRIOR FILING DATE: 2000-09-06
PRIOR FILING DATE: 2000-09-06
PRIOR PLILING DATE: 2000-09-06
PRIOR PLILING DATE: 2000-10-23
PRIOR FILING DATE: 2000-10-23
PRIOR PLILING DATE: 2000-10-23
PRIOR FILING DATE: 2000-10-23
PRIOR PLILING DATE: 2000-11-27
PRIOR FILING DATE: 2000-05-23

PRIOR FILING DATE: 2000-05-26

PRIOR FILING DATE: 2000-05-26

PRIOR FILING DATE: 2000-05-26

PRIOR FILING DATE: 2000-09-06

PRIOR FILING DATE: 2000-09-06

PRIOR FILING DATE: 2000-09-09

PRIOR FILING DATE: 2000-10-23

PRIOR FILING DATE: 2000-110-23

PRIOR FILING DATE: 2000-110-23

PRIOR PILING DATE: 2000-110-23

PRIOR PILING DATE: 2000-110-27

PRIOR PILING DATE: 2000-110-27

PRIOR PILING DATE: 2000-12-27

PRIOR PILING DATE: 2001-12-09

PRIOR PILING DATE: 2010-102-09

PRIOR PILING DATE: 2011-02-16

PRIOR PILING DATE: 2011-02-16
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ORGANISM: Haemophilus influenzae
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Matches 4; Conservative
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0; Mismatches
                                                                                                                                                                                                                                                    Sequence 68774, Application US/10282122A
Publication No. US20040029129A1
GENERAL INFORMATION:
APPLICANT: Wang, Liangsu
APPLICANT: Malone, Cheryl
APPLICANT: Malone, Cheryl
APPLICANT: Haselbeck, Robert
APPLICANT: Haselbeck, Robert
APPLICANT: Ohlsen, Kari
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US-10-282-122A-68774
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APPLICANT: Kovalic David K
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Best Local Similarity 100.
Matches 4; Conservative
4; Conservative
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PRIOR APPLICATION NUMBER: 60/206,848
PRIOR APPLICATION NUMBER: 60/207,727
PRIOR APPLICATION NUMBER: 60/207,727
PRIOR FILING DATE: 2000-05-26
PRIOR PILING DATE: 2000-05-26
PRIOR PILING DATE: 2000-09-09
PRIOR PILING DATE: 2000-09-09
PRIOR PLING DATE: 2000-09-09
PRIOR APPLICATION NUMBER: 60/230,347
PRIOR APPLICATION NUMBER: 60/245,578
PRIOR APPLICATION NUMBER: 60/253,625
PRIOR APPLICATION NUMBER: 60/253,625
PRIOR APPLICATION NUMBER: 60/253,636
PRIOR APPLICATION NUMBER: 60/257,931
PRIOR PILING DATE: 2000-12-22
PRIOR PILING DATE: 2001-02-16
PRIOR FILING DATE: 2001-02-09
PRIOR FILING DATE: 2001-02-16
PRIOR PILING DATE: 2001-02-16
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PRIOR FILING DATE: 2001-02-09
PRIOR APPLICATION NUMBER: 60/269,308
PRIOR FILING DATE: 2001-02-16
PRIOR FILING DATE: 2001-02-16
Remaining Prior Application data removed - See File Wrapper or PALM.
NUMBER OF SEQ ID NOS: 78614
SOFTWARE: Patentin version 3.1
SEQ ID NO 58530
LENGTH: 89
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100.0%; Pred. No. 1.2e+03;
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Pred. No. 1.2e+03
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Publication No. US20040029129A1
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PRIOR FILING DATE: 2000-03-21
                                                                                                                                                                                                                                           TYPE: PRT ORGANISM: Haemophilus influenzae
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ORGANISM: Pasteurella multocida
                                                                                                                                                                                                                                                                                                                                                       95.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Wang, Liangsu
APPLICANT: Zamudio, Carlos
APPLICANT: Malone, Cheryl
APPLICANT: Haselbeck, Robert
APPLICANT: Ohlsen, Kari
APPLICANT: Zyekind, Judith
APPLICANT: Mall, Daniel
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Carr, Grant
Yamamoto, Robert
Forsyth, R.
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Best Local Similarity 100.
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Best Local Similarity
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APPLICANT: Xu, H.

TITLE OF INVENTION: Identification of Essential Genes in Microorganisms
FILE REPERENCE: ELITAA.034

CURRENT APPLICATION NUMBER: US/10/282,122A

CURRENT APPLICATION NUMBER: US/10/282,122A

CURRENT FILING DATE: 2003-02-20

PRIOR APPLICATION NUMBER: 60/194,078

PRIOR FILING DATE: 2000-03-21

PRIOR PLING DATE: 2000-05-26

PRIOR APPLICATION NUMBER: 60/207,727

PRIOR PLING DATE: 2000-09-06

PRIOR PLING DATE: 2000-09-06

PRIOR PLING DATE: 2000-09-06

PRIOR PLING DATE: 2000-10-23

PRIOR PLING DATE: 2000-10-23

PRIOR PLING DATE: 2000-11-27

PRIOR PLING DATE: 2000-11-27

PRIOR PLING DATE: 2000-11-27

PRIOR PLING DATE: 2000-10-23

PRIOR PLING DATE: 2000-11-27

PRIOR PLING DATE: 2000-11-27

PRIOR PLING DATE: 2001-02-3

PRIOR APPLICATION NUMBER: 60/253,625

PRIOR PLING DATE: 2001-02-09

PRIOR APPLICATION NUMBER: 60/253,625

PRIOR APPLICATION NUMBER: 60/253,636

PRIOR PLING DATE: 2001-02-09

PRIOR PLING DATE: 2001-02-09

PRIOR APPLICATION NUMBER: 60/269,308

PRIOR PLING DATE: 2001-02-16

PRIOR APPLICATION NUMBER: 60/260,308

PRIOR PLING DATE: 2001-02-16

PRIOR APPLICATION NUMBER: 60/260,308

PRIOR APPLICATION NU
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Search completed: May 24, 2004, 17:42:35 Job time: 41.6429 secs
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Publication No. US20040031072A1
GENERAL INFORMATION
GENERAL INFORMATION
APPLICANT: A Rosa Thomas J
APPLICANT: APPLICANT: ANOW Yihua
APPLICANT: APPLICANT: ANOW Yihua
APPLICANT: APPLICANT: ANOW YIHUA
APPLICANT: APPLICANT: ANOW YIHUA
APPLICANT: APPLICANT: APPLICANT: APPLICANT: CON YONGWEIT
TITLE OF INVENTION: Boay Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Blants and Uses Thereof for Plant Improvement
CURRENT APPLICANTON NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
TITLE OF INVENTION: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(5323)8
CURRENT PILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 180307
TYPE: ...
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Publication No. US20030138771A1
RENERAL INFORMATION:
APPLICANT: PELLETER, JERRY
APPLICANT: DUBOW, MICHAEL
TITLE OF INVENTION: DNA SEQUENCES FROM S. PNEUMONIAE BACTERIOPHAGE EP1 THAT
TITLE OF INVENTION: DNA SEQUENCES FROM S. PNEUMONIAE BACTERIOPHAGE EP1 THAT
TITLE OF INVENTION: DNA SEQUENCES FROM S. PNEUMONIAE BACTERIOPHAGE EP1 THAT
TITLE OF INVENTION: DNA SEQUENCES FROM S. PNEUMONIAE BACTERIOPHAGE EP1 THAT
TITLE OF INVENTION: UNMBER: US/10/097,111
CURRENT FILING DATE: 2002-07-24
PRIOR APPLICATION NUMBER: 09/676,412
PRIOR FILING DATE: 1999-09-30
NUMBER OF SEQ ID NOS: 552
SOFTWARE: PATENTIN VET. 2.1
SEQ ID NO 360
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Best Local Similarity 100.0%; Pred. No. 1.2e+03;
Matches 4; Conservative 0; Mismatches 0; Indels
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                                                     TYPE: PRT ORGANISM: Glycine max OTHER INFORMATION: Clone ID: PAT_MRT3847_64015C.1.pep US-10-424-599-245830
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Best Local Similarity 100.0%; Pred. No. 1.2e+03;
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particular interest are those involved in non-ribosomal peptide synthesis or polyketide synthesis, and compounds for testing are particularly macrolide antibioties, and compounds for testing are particularly earthromycine, including penicillins, vancomycine or erythromycins, but may also be modular receptors. The present sequence is a fragment of a protein enroded by a Streptomyces chrysomallus actinomycin biosynthesis gene which was used in a plasmid in the exemplification of the invention
                                                                                                                                                                                                                                                                                                     Beta-secretase; beta-amyloid precursor protein; beta-amyloid peptide; amyloid plaque component; Alzheimer's disease; amyloidogenic disease; inhibitor.
                                                                                                             95.0%; Score 19; DB 5; Li
100.0%; Pred. No. 1.4e+06;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                        A beta-secretase inhibitor peptide
                                                                                                                                                                                                                            AAB07871 standard; peptide; 7 AA.
                                                                                                                                                                                                                                                                   14-NOV-2000 (first entry)
                                                                                                              Query Match
Best Local Similarity 100.
Matches 4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                      Key
Modified-Bite
                                                                                             Sequence 6 AA;
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15-JUN-1999;
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                                                                                                                                                                                                                                                                                                                                                   Synthetic
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                                                                                                                                                                                                      Aaus 5000 Propionib
Abm53027 Propionib
Abus 5025 Protein e
Aabs 972 Breast an
Aabs 7091 Human pro
Abul 4941 Protein e
                                                                                                                                                                                                                                                                                                                                                                                                                     Modular enzyme system; cyclic gene synthesis; repetitive coding sequence; antibiotic; non-ribosomal peptide synthetase; NRPS; PKS; polyketide synthase; actinomycin biosynthase.
                       Drosophil
Arabidops
Arabidops
                                                     Protein e
Amino aci
Rat FATP4
Photorhab
Human Try
                                                                                                      Protein e
Human pol
Streptoco
Human NF-
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Fruit fly
Transcrip
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Fruit fly
Propionib
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                                                                                                                                                                                                                                                                                                                                                                                                   chrysomallus actinomycin biosynthase protein acmC fragment #9.
      Aag50762 Aag13524 Aag13524 Aag53518 Aag33960 Abu40766 Aay14954 Aay14954 Abm682231 Aar21549 Abu29329
                                                                                                               Aam39361 PAbp27964 Abp61471 Abb61471 Abu46908 Aag91382 Aars4663 Aars89212 Aae30503
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AAR54663
AAR89212
AAE30503
AAU56508
                AAG13524
ABB58218
AAG53518
AAG39960
                                                     ABU40766
AAY14954
AAB83254
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ABU29329
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ABU46908
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AAB57091
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ABP27964
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                                                                                                                                                                                                                                                                                                                                            AAM47151 standard; peptide; 6 AA
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                                                                                                                                                                                                                                                                                                                                                                                  12-FEB-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Streptomyces chrysomallus. Synthetic.
       WPI; 2002-049276/06.
N-PSDB; ABA03345.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200181564-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Schauwecker F;
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        AAM47151;
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RESULT 1 AAM47151

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The specification describes a beta-secretase enzyme. The enzyme cleaves beta-amyloid precursor protein to produce beta-amyloid peptide. This enzyme is therefore implicated in the production of amyloid plague components which accumulate in the brains of individuals affilicted with Alzheimer's disease. Inhibitors of beta-secretase are administered to a mammalian subject e.g. with Alzheimer's disease or Alzheimer's disease-like pathology to test if they maintain or improve cognitive ability or reduce the plaque burden. The compounds are used for the treatment of amyloidogenic diseases e.g. Alzheimer's disease. The present sequence represents an inhibitor of beta-secretase enzyme
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Purified beta-secretase protein used in assays to discover inhibitors which can be used for the treatment of amyloidogenic diseases e.g. Alzheimer's disease.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Power
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/note= "hydroxyethylene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure; Page 12; 121pp; English.
                                                                                                                                                                                                                                  10-FEB-2000; 2000WO-US003819.
                                                                                                                                                                                                                                                                                                             99US-0119571P.
                                                                                                                                                                                                                                                                                                                                                                                                                                   (ELAN-) ELAN PHARM INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Anderson JP, Basi G,
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The present invention relates to the preparation of DNA, in a circular vector, that encodes one or more segments of a modular polypeptide. DNA or DNA libraries produced this way are used to produce modular polypeptides, particularly enzymes, which can be used to act on

Example 3; Page 54; 83pp; German.

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AAU28720;
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                            RESULT 4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Purified beta-secretase protein used in assays to discover inhibitors which can be used for the treatment of amyloidogenic diseases e.g. Alzheimer's disease.
                                                                                                                                                                                                                                                                                                        Beta-secretase; beta-amyloid precursor protein; beta-amyloid peptide; amyloid plaque component; Alzheimer's disease; amyloidogenic disease; inhibitor.
                                                         Gaps
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                          95.0%; Score 19; DB 3; Length 7; 100.0%; Pred. No. 1.4e+06; ive 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Doane MT, Frigon N, John V,
Tung J, Wang S, Mcconlogue L;
                                                                                                                                                                                                                                                                                                                                                                                                                               /note= "hydroxyethylene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Page 12; 121pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                               A beta-secretase inhibitor peptide.
                                                                                                                                                                                        AAB07872 standard; peptide; 8 AA
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                            Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (ELAN-) ELAN PHARM INC.
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Sinha S, Tatsuno G,
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Modified-site
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Sequence 7 AA;
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15-JUN-1999;
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AB07872
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Screening, diagnosis or prognosis of vascular dementia (VD), useful for determining stage of VD and monitoring the effect of VD therapy, comprises analyzing body fluid by 2-dimensional electrophoresis for features correlated with VD.
                                                                                                                                                                                                                                                    Vascular Dementia, VD; VD-associated protein isoform; VPI; screening;
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                                                                                                                                                                                        Vascular dementia-associated protein isoform (VPI) 441.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (OXFO-) OXFORD GLYCOSCIENCES UK LTD.
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                                                                                                                                                                                                                                                                                           diagnosis; prognosis; gene therapy.
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ABB56241 standard; peptide; 8 AA.
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24-NOV-2000; 2000GB-00028734.
28-NOV-2000; 2000US-00724391.
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                                                                                                                                                                                                                                                                                                                                                               Homo sapiens.
                                                                                                                            15-FEB-2002
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Tyson KL

Terrett JA,

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us-09-594-978a-1.rag

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New schizophrenia associated protein isoforms and encoding nucleic acid molecules, useful for treatment, diagnosis and prognosis of schizophrenia and screening for potential drugs for treatment and new drug targets.
                                                                                                                                                                                                                                                                                                                                                                                                                                             The sequence represents a schizophrenia-associated protein isoform (SPI). These protein isoforms, e.g. SPI-206, SPI-238 and SPI-240 are detectable in cerebrospinal fluid, serum or plasma and are useful markers of schizophrenia. The sequences can be used for treatment and diagnosis of schizophrenia, screening, prognosis, monitoring the results of therapy, identifying patients most likely to respond to a particular therapy and identification of new targets for drug treatment. SPI DNA is useful as a nucleic acid probe to detect the presence of nucleic acids or SPIs
                                                                                                                                                                                                                                    Rohlff C,
                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Page 36; 148pp; English.
                                                                                                                                                                                           (OXFO-) OXFORD GLYCOSCIENCES UK
                                                                                                                           24-FEB-2000; 2000GB-00004415.
28-DEC-2000; 2000US-00750395.
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Matches 4; Conserv
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WO200162785-A2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel nucleic acid encoding a protein associated with bipolar affective disorder, which is used for diagnosis, prophylaxis and therapy of neuropsychiatric disorders, such as bipolar affective disorder.
                                                             Human, depression associated protein isoform, tryptic digest peptide,
DPI; cerebrospinal fluid, CSF; BAD; bipolar affective disorder;
neuropsychiatric disorder; bipolar mood disorder; neuroleptic;
maniac-depressive illness; schizoaffective disorder.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Parekh RB, Rohlff C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Disclosure, Page 37; 153pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                  (OXFO-) OXFORD GLYCOSCIENCES UK LTD
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                    DPI tryptic digest peptide #317
                                                                                                                                                                                                                                                                                                    23-FEB-2001; 2001WO-GB000786.
                                                                                                                                                                                                                                                                                                                                           24-FEB-2000; 2000GB-0000412.
08-DEC-2000; 2000GB-00030050.
12-DEC-2000; 2000US-0254830P.
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Best Local Similarity 100.
Matches 4; Conservative
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Human, Bipolar Affective Disorder, BAD; Depression-Associated feature,
DF; Depression-Associated protein isoform; DPI; Cerebro-spinal fluid,
CSF; antidepressant, antimanic, nootropic, tranquiliser; neuroleptic;
attention deficient disorder; schizoaffective disorder;
                                                                          Gaps
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h Similarity 100.0%; Score 19; DB 4; Length 8; Similarity 100.0%; Pred. No. 1.4e+06; 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Depression-Associated Protein isoform DPI-124.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (OXFO-) OXFORD GLYCOSCIENCES UK LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rohlff C;
                                                                                                                                                                                                                                                                                                                                                                                                  AAU26368 standard; peptide; 8 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24-FEB-2000; 2000GB-0004412.
08-DEC-2000; 2000GB-00030050.
12-DEC-2000; 2000US-0254830P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Herath HMAC, Parekh RB,
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Schizophrenia-associated protein isoform, SPI, SPI-206, SPI-238, SPI-240, neuroleptic, gene therapy; cerebrospinal fluid, serum; plasma.

Homo sapiens

AAU25114;

X S X Z Z X B X B X B X S X

RESULT 6 AAU25114

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23-FEB-2001; 2001WO-GB000783 WO200163293-A2 Matches RESULT 8 ⋩ \$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$

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The invention relates to a preparation comprising an isolated Bipolar Affected Disorder (BAD)-Associated Protein Isoform (DPIs). The DPI's are used to screen, diagnose or prognose of BAD or unipolar depression, identify a chermine the stage or severity of BAD or unipolar depression, identify a subject at risk of developing BAD or unipolar depression, or monitor the effect of therapy in a subject. They are also used to screen for or identify agents that interact with a DPI. These agents, antibodies against the DPIs, and nucleic acids encoding the DPIs are used to treat or prevent BAD or unipolar depression. Diseases that can be treated are attention deficient disorder. As chizoaffective disorder, a bipolar or unipolar affective disorder. The DPIs are used in proteomics. The unipolar depression overcomes the problems of using gene expression analysis, such as not being able to obtain central nervous present sequence from a living patient under normal circumstances. The present sequence is a DIP increased in the CSF (cerebro-spinal fluid) of subjects having BAD
                                                      or
                                        Preparation for diagnosing or treating bipolar affected disorder (BAD) unipolar depression, or for screening for modulators, comprises a BAD-associated protein isoform.
                                                                                                                                                        Claim 8; Page 37; 163pp; English.
WPI; 2001-582081/65
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                                                 0; Indels
                        95.0%; Score 19; DB 4; Length 8; 100.0%; Pred. No. 1.4e+06; cive 0; Mismatches 0; Indels
                                                    4; Conservative
                                   Local Similarity
                                                                            2 VAEF 5
Sequence 8 AA;
                         Query Match
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AAU15458 standard; peptide; 8 AA 24-OCT-2001 AAU15458;

Schizophrenia-associated isoform peptide #343.

Schizophrenia; neuroleptic; diagnostic; neuropsychiatric disorder; neurological disorder; neuropathy.

Homo sapiens

30-AUG-2001

24-FEB-2000; 2000GB-00004415. 28-DEC-2000; 2000US-00750395.

(OXFO-) OXFORD GLYCOSCIENCES UK

Rohlff C; Herath HMAC, Parekh RB,

WPI; 2001-502868/55.

Diagnosing and monitoring Schizophrenia by detecting the presence of Schizophrenia Associated Features and Schizophrenia Associated Protein Isoforms in samples of cerebrospinal fluid.

Claim 6; Page 36; 160pp; English

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The invention relates to methods and compositions for screening, diagnosis and prognosis of Schizophrenia. The method involves detecting the presence of Schizophrenia (SCH) Associated Peatures (SFS) and SCH, Associated Protein Isoforms (SPIS) in samples, e.g. by electrophoresis, immunoassay or hybridisation assay, for diagnosing and monitoring SCH, studying the effectiveness of treatments and for identifying potential therapeutic agents. The method is used for (1) screening or diagnosis of SCH and the relative abundance of at least 1 chosen feature correlates with the presence or absence of SCH; and (2) monitoring the effect of therapy administered to a subject with SCH and the relative abundance of at least 1 chosen feature which correlates with the severity of SCH. The expression and activity of the SFs, SSIS and related molecules (e.g. secondary messengers) are studied to diagnose SCH, monitor the progress of the disorder and the effectivenes of treatment and as targets to identify and produce potential therapeutic agents for the treatment of SCH. The paucity of detectable neuralgic defects distinguishes neuropsychiatric disorders such as SCH from neurological disorders, where menifestations of antomical and biochemical changes have been identified in many cases. Consequently the identification and characterisation of cellular and/or molecular causative defects and neuropathies are mensessary for improved treatment of neuropsychiatric disorders. Adults Aults762 represent the amino acid sequences of schizophrenia-associated sequences.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MAGE 3 105-113; cytotoxic T; CTL; epitope; helper T; HTL; cell; lymphocyte; antigens; treatment; disease prevention; tumours; cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
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100.0%; Pred. No. 1.4e+06;
iive 0; Mismatches 0;
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(first entry)
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Best Local Similarity
Matches 4; Conserv
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27-MAR-1996
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Gaps

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Indels

Length 9;

95.0%; Score 19; DB 5; Le ilarity 100.0%; Pred. No. 1.4e+06; Conservative 0; Mismatches 0;

Query Match Best Local Similarity Matches 4; Conserv

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2 VAEF

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6 VAEF

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Crystallized complex of beta-site amyloid precursor protein (APP) cleaving enzyme (BACB) and APP inhibitor peptide useful for identifying agents that interact with active site of BACB or active site of APP binding protein or peptide.
human MAGE antigen (Ag) in a mammal comprises, a MAGE CTL Ag response inducing peptide (i.e. AAR78904 to AAR78917) and a lipid conjugated helper T cell inducing peptide. The compan. is useful in the treatment and prevention of MAGE tumour associated diseases, e.g. melanoma cancers. (Updated on 25-MAR-2003 to correct PI field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Stahl ML;
                                                                                                                                                                                                                                                                                                                     Beta-amyloid precursor protein; APP; APP inhibitor peptide; BACI
beta site APP cleaving enzyme; protein coordinate data; APP751;
Swedish family mutation; Alzheimer's disease.
                                                                                                                                                                                                                                                                                                A beta-amyloid precursor protein (APP) inhibitor peptide.
                                                                                                                    0; Indels
                                                                                             Length 9;
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Pred. No. 1.4e+06;
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                                                                                     95.0%; Scc. 100.0%; Pred. No. ...
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/note= "statine"
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                                                                                                                                                                                                                                                                         27-SEP-2002 (first entry)
                                                                                           Query Match
Best Local Similarity 100.
Matches 4; Conservative
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Misc-difference
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                                                                      Sequence 9 AA;
                                                                                                                                           2 VAEF
                                                                                                                                                                 2 VAEF
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Somers WS;
                                                                                                                                                                                                                                                                                                                                                                    Synthetic
                                                                                                                                                                                                                                                  ABB77871;
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Beta-secretase, enzyme, cleavage site, amyloid protein precursor; APP, aspartyl protease, neuroprotective, nootropic, beta-secretase inhibitor;

Alzheimer's disease

sapiens

Synthetic

WO200206306-A2.

24-JAN-2002.

Beta-secretase related peptide SEQ ID NO:197.

(first entry)

31-MAY-2002

ABB06593;

ABB06593 standard; peptide; 10 AA.

RESULT 11 ABB06593 ID ABBC

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Gaps

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The present invention describes an isolated peptide (I) comprising a sequence of at least four amino acids, where the peptide is a substrate conducting aspartyl protease assays. (I) has neuroprotective and corrective in conducting aspartyl protease assays. (I) has neuroprotective and corrective individual can be used as an inhibitor of beta-secretase cutivity. A beta-secretase modulator from the present invention can be used for inhibiting beta-secretase activity in vivo, and in the conductive of a medicament for the treatment of Alzhaimer's disease. Pharmaceutical compositions from the present invention can be used for treating a disease or condition characterised by an abnormal beta-construct of its useful for identifying agents that modulate the activity of human Asp2 aspartyl protease (Hu-Asp2). (I) is useful as a core structure to construct derivatives. ABL49914 to ABL49925 and ABB06409 to ABB06503 represent sequences used in the exemplification of the present invention Gaps ö Length 10; Indels h Similarity 100.0%; Score 19; DB 5; Lv Similarity 100.0%; Pred. No. 1.2e+02; 4; Conservative 0; Mismatches 0; Query Match Best Local Similarity Matches 4; Conserv Ŋ Sequence 10 AA; 2 VAEF à d

The present sequence represents a beta-amyloid precursor protein (APP) inhibitor peptide. This peptide inhibits binding between APP and BACE (beta site APP cleaving enzyme). The specification describes a crystallized complex of BACE and the present APP inhibitor. Protein coordinate data for BACE is given in the specification. The APP inhibitor peptide is based on the P10 to P4' APP751 Swedish family mutation. The crystallized complex is used for identifying an agent that interacts with an active site of BACE or an active site of an APP binding protein or peptide. The agents are useful in the treatment and/or prevention of Alzheimer's disease

Sequence 9 AA

Claim 1; Page 22; 88pp; English.

Novel substrates for human aspartyl protease useful for identifying modulators of beta secretase activity of aspartyl protease for treating

Disclosure; Page 188; 188pp; English.

Alzheimer's disease.

Emmons TL, Bienkowski MJ;

Tomasselli AG, Gurney ME,

WPI; 2002-216995/27.

Heinrikson RL;

Yan R,

(PHAA ) PHARMACIA & UPJOHN CO 19-JUL-2000; 2000US-0219795P. 12-MAR-2001; 2001US-0275251P. 19-JUL-2001; 2001WO-US023035.

Synthetic.

Homo

ABB06592

**BB06592** 

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The invention relates to an inhibitor of catalytically active memapsin 2 (an aspartic protease which can cleave at beta secretase sites), which binds to the active site of memapsin 2 defined by the presence of two catalytic aspartic residues and substrate binding cleft. Also included is memapsin 2 sub-sites comprising; (a) reacting a mixture of memapsin 2 unbstrates with memapsin 2, and determining the sub-site preference in substrates with memapsin 2; and the substrate of memapsin 2 substrates; or (b) preparing a combinatorial intrary of memapsin 2 inhibitors containing a base sequence taken from owep-2 (Glu-val-Asn-Leu-Ala-Ala-Glu-phe), probing the library of inhibitors with memapsin 2 inhibitors containing a base sequence taken from owep-2 (Glu-val-Asn-Leu-Ala-Ala-Glu-phe), probing the library of inhibitors with memapsin 2 and detecting the bound memapsin 2 with an antibody raised to memapsin 2 and an alkaline phosphatase conjugated secondary antibody. The inhibitors may be used in the manufacture of a medicament for the treatment of Albeimer's disease since memapsin 2 may be involved in the cleavage of amyloid precursor protein (APP), and for determining the substrate side-chalin preference in memapsin 2 sub-sites. The present sequence represents a subsite variant peptide used to the substrate specificity of human memapsin 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New memapsin 2 activity inhibitor useful in treatment of e.g. Alzheimer's
                                                                                   Human, memapgin 2, aspartic protease; beta secretase; degenerative disease; Alzheimer's disease; amyloid precursor protein; APP; neuroprotective; noctropic; inhibitor; substrate side-chain preference.
                                       Memapsin 2 substrate specificity determination peptide #10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     95.0%; Score 19; DB 5; Length 12; 100.0%; Pred. No. 1.5e+02;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ghosh AK;
                                                                                                                                                                                                                                                                                                                                                                    28-DEC-2001; 2001WO-US050826.
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14-MAR-2001; 2001US-0275756P.
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(first entry)
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Matches 4; Conservative
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15-NOV-2002
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                                                                                                                                                                                                                                  Synthetic.
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ADD35467
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present invention describes an isolated peptide (I) comprising a sequence of at least four amino acids, where the peptide is a substrate for conducting aspartyl protease assays. (I) has neuroprotective and for notropic activities, and can be used as an inhibitor of beta-secretase activity, A beta-secretase modulator from the present invention can be used for inhibiting beta-secretase activity in vivo, and in the manufacture of a medicament for the treatment of Alzhaimer's disease. Or pharmaceutical compositions from the present invention can be used for treating a disease or condition characterised by an abnormal beta-treatment ad disease or condition characterised by an abnormal beta-to secretase activity. (I) is useful for identifying agents that modulate a core structure to construct derivatives. ABL49914 to ABL49925 and the present invention
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                                                                                                                                                                                                                                                                      Beta-secretame; enzyme; cleavage site; amyloid protein precursor; APP; aspartyl protease; neuroprotective; nootropic; beta-secretase inhibitor; Alzheimer's disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Novel substrates for human aspartyl protease useful for identifying modulators of beta secretase activity of aspartyl protease for treating Alzheimer's disease.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Emmons TL,
                                                                                                                                                                                                                               Beta-secretase related peptide SEQ ID NO:196.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; Page 188; 188pp; English
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                                                                                        ABB06592 standard; peptide; 12 AA.
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12-MAR-2001; 2001US-0275251P.
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Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Yan R, Tomasselli AG,
Heinrikson RL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2002-216995/27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 VAEF 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VAEF 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 12 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                           WO200206306-A2.
                                                                                                                                                                                                                                                                                                                                                                         sapiens.
                                                                                                                                                                                   31-MAY-2002
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Gaps

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ABG78404;

ESULT 13 BG78404

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us-09-594-978a-1.rag

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Glutamic acid; glutamine; vaccine; major histocompatibility complex; MHC; immunomodulator; antiallergic; endocrine; neuroprotectant; virucidal; bactericidal; antiparastiic; fungicidal; cytostatic; medicine; pharmaceutical; immune disorder; immune deficiency; autoimmune; hyperansensitivity; allergy; graft rejection; infection; hormonal disorder; central nervous system disease; cancer; melanoma; anti-melanoma vaccine; human immunodeficiency virus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     beta-amyloid precursor protein to produce beta-amyloid peptide. This enzyme is therefore implicated in the production of amyloid peptide. This components which accumulate in the brains of individuals affiliated with Alzheimer's disease. Inhibitors of beta-secretase are administered to a mammalian subject e.g. with Alzheimer's disease or Alzheimer's disease. Ilke pathology to test if they maintain or improve cognitive ability or reduce the plaque burden. The compounds are used for the treatment of amyloidogenic diseases e.g. Alzheimer's disease. The present sequence represents an inhibitor of beta-secretase enzyme
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       specification describes a beta-secretase enzyme. The enzyme cleaves
                                                                                                                                                                                                                                                                                                                                                                                                                          Purified beta-secretase protein used in assays to discover inhibitors which can be used for the treatment of amyloidogenic diseases e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                95.0%; Score 19; DB 3; Length 13; llarity 100.0%; Pred. No. 1.6e+02; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                   Frigon N, John V, 19 S, Mcconlogue L;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Vaccine related MHC ligand peptide SEQ ID NO:379.
                                                                                                                                                                                                                                                                                                                                       Wang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 33; Page 24; 121pp; English.
                                                                                                                                                                                                                                                                                                                     Doane MT,
Tung J, Wa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAM99276 standard; peptide; 13
                                                                                                                                                                        10-FEB-2000; 2000WO-US003819.
                                                                                                                                                                                                                99US-0119571P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22-MAR-2001; 2001WO-FR000872.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                               (ELAN-) ELAN PHARM INC.
                                                                                                                                                                                                                                                                                                                     Basi G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                which can be used for Alzheimer's disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mycobacterium leprae
                                                                                                                                                                                                                                                                                                                                           Tatsuno G,
                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2000-533011/48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
ses 4; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10 VAEF 13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 13 AA;
                                                                                     WO200047618-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200170772-A2
                                                                                                                                                                                                                10-FEB-1999;
15-JUN-1999;
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                                                                                                                                                                                                                                                                                                                     Anderson JP,
                                                                                                                                 17-AUG-2000
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                                               Synthetic.
    inhibitor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAM99276;
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                                                                                                                                                                                                                                                                                                                                         Sinha S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 16
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention comprises a crystallised recombinant protein that is involved in general metabolism, the recombinant protein may be from Staphylococcus aureus, Streptococcus pneumoniae, Helicobacter pylori, Escherichia coli or Pseudomonas aeruginosa. The crystallised recombinant protein of the invention is useful in the prevention (vaccine) or treatment of a disease or disorder caused by S. pneumoniae, H. pylori, E. coli or P. aeruginosa. The present amino acid sequence was used in the exemplification of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Beattie B;
kov S, Nethery K;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New crystallized recombinant polypeptides from Staphylococcus aureus, Streptococcus pneumoniae, Helicobacter pylori or Pseudomonas aeruginosa involved in general metabolism, useful as drug targets for pathogenic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Beta-secretase; beta-amyloid precursor protein; beta-amyloid peptide; amyloid plaque component; Alzheimer's disease; amyloidogenic disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                          crystallised recombinant protein; metabolism; Staphylococcus aureus; Streptococcus pneumoniae; Helicobacter pylori; Escherichia coli; Pseudomonas aeruginosa; vaccine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Edwards A, Dharamsi A, Vedadi M, Alam MZ, Awrey D, Bea
Canadien V, Domagala M, Houston S, Mansoury K, Necakov
Ng I, Pinder B, Sheldrick B, Vallee F, Wrezel O;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               95.0%; Score 19; DB 7; Length 12;
larity 100.0%; Pred. No. 1.5e+02;
Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure; SEQ ID NO 66; 277pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A beta-secretase inhibitor peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAB07889 standard; peptide; 13 AA
Escherichia coli DnaK peptide #3
                                                                                                                                                                                                                                                                                                                                                           18-DEC-2001; 2001US-0341770P.

19-DEC-2001; 2001US-034154P.

20-DEC-2001; 2001US-0342003P.

21-DEC-2001; 2001US-0342542P.

21-DEC-2001; 2001US-0343570P.

28-DEC-2001; 2001US-034350P.

28-DEC-2001; 2001US-034350P.
                                                                                                                                                                                                                                                                                            ; 2001US-0332160P.
; 2001US-033361P.
; 2001US-033365P.
; 2001US-034170P.
; 2001US-034154P.
                                                                                                                                                                                                                                                        21-NOV-2002; 2002WO-CA001768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (AFFI-) AFFINIUM PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2003-513596/48.
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Matches 4: Conser
                                                                                                                               Escherichia coli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9 VAEF 12
                                                                                                                                                                        WO2003044185-A2.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 12 AA;
                                                                                                                                                                                                                                                                                                 21-NOV-2001;
                                                                                                                                                                                                                                                                                                                                         27-NOV-2001;
                                                                                                                                                                                                                30-MAY-2003
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AAB07889

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Gaps

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Query Match
Best Local Similarity
Matches 4; Conserv
Sequence 13 AA;
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                                                                                                                                                                                                                                                                                                                              Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                  10-FEB-1999;
15-JUN-1999;
                                                                                                                                                                                                                        14-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                              17-AUG-2000
                                                                                                                                                                                               AAB07888;
                                                                                                                                          ESULT 17
                                                                                                                                                      AB07888
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Shimkets RA,
                                    Anderson JP,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAM97460;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                         Sinha S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAM97460
à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present invention describes a pharmaceutical compound (I) that contains an N-terminal glutamic acid (Glu) or glutamine (Gln) residue in the form of an addition salt with a strongy physiologically acceptable acid (II). Also described are: (a) a pharmaceutical composition containing at least one (I); (b) a vaccine containing at least one (I) where this is a major histocompatibility complex (MRC) ligand (Ia); (c) a method for in vitro diagnosis of diseases associated with the presence of (Ia); (d) a kit for method (c) that includes a (Ia); and (e) a process for preparing (I). (I) has immunomodulator, endocrine, antiallergic, neuroprotectant, virucidal, bactericidal, antiparasitic, fungicidal and cytostatic activities. (I) are useful, in human or veterinary medicine, in pharmaceutical compositions (for treating immune disorders, e.g. immune deficiency, autoimmune states, hypersensitivity, allergy, graft rejection, infection, hormonal disorders and central nervous system cliscases also, where (I) is a MRC ligand (Ia), in vaccines for treatment or prevention of: (i) viral, bacterial, parasitic or fungal infections; or (ii) of cancers. A particular application is in antimelaton accined with interactions between MMC and (I), e.g. melanoma and human immunodeficiency virus infection. AAN98888 to AAN9592 represent peptides which can be used in pharmaceutical compounds from the present invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ô
                                                                                                                                                                   Stabilized pharmaceutical containing N-terminal glutamic acid or glutamine, useful e.g. in anti-melanoma vaccines, is an addition salt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Beta-secretase; beta-amyloid precursor protein; beta-amyloid peptide; amyloid plaque component; Alzheimer's disease; amyloidogenic disease; inhibitor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A peptide fragment derived from beta-amyloid precursor protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     h Similarity 100.0%; Score 19; DB 4; Length 13; Similarity 100.0%; Pred. No. 1.6e+02; 4; Conservative 0; Mismatches 0; Indels
                                                                                            Goetsch L;
                                                                                         Corvaia N, Beck A,
                                                   (FABR ) FABRE MEDICAMENT SA PIERRE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAB07888 standard; peptide; 14 AA.
                                                                                                                                                                                                                                               Claim 9; Page 96; 149pp; French
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99US-0119571P.
99US-0139172P.
                23-MAR-2000; 2000FR-00003711
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                                                                                            Klinguer-Hamour C,
                                                                                                                                WPI; 2001-611470/70
                                                                                                                                                                                     glutamine, useful with strong acid.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                         beta-amyloid precursor protein to produce beta-amyloid peptide. This enzyme is therefore implicated in the production of amyloid plaque components which accumulate in the brains of individuals affilicted with Alzheimer's disease. Inhibitors of beta-secretase are administered to a mammalian subject e.g. with Alzheimer's disease or Alzheimer's diseaserike pathology to test if they maintain or improve cognitive ability or reduce the plaque burden. The compounds are used for the treatment of amyloidogenic diseases e.g. Alzheimer's disease. The present sequence represents a peptide derived from beta-amyloid precursor protein
                                                                                                                                                                                                                                                                                                                                                                                                       specification describes a beta-secretase enzyme. The enzyme cleaves
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Polymorphic nucleic acids encoding e.g. amylases, cyclins, polymerases, oncogenes and histones, useful for diagnosing and treating, e.g. cancer,
                                                                                                                                                                                                                           Purified beta-secretase protein used in assays to discover inhibitors which can be used for the treatment of amyloidogenic diseases e.g. Alzheimer's disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
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0
                                                             Power M;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                             Doane MT, Frigon N, John V, fung J, Wang S, Mcconlogue L;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human peptide #735 encoded by a SNP oligonucleotide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               95.0%; Score 19; DB 3; Le 100.0%; Pred. No. 1.8e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Pred. ... 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                       Disclosure, Page 12; 121pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAM97460 standard; peptide; 14 AA.
                                                                                                Tung J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28-DEC-1999; 99US-0173419P.
27-DEC-2000; 2000US-00173419.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4; Conservative
(ELAN-) ELAN PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      nervous system disease
                                                                Basi G,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (CURA-) CURAGEN CORP.
                                                                                                    Tatsuno G,
                                                                                                                                                                 WPI; 2000-533011/48.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PI; 2001-465210/50.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 14 AA;
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The present invention relates to oligonucleotides (see ALL26793-AAL34659)
encoding polywacypic variants of proteins related to amylases, amyloid
proteins, angiopoletin, apoptosis related proteins, cadherin, cyclin,
polymerase, oncogenes, histones, kinases, colony stimulating factors,
complement related proteins, cytochromes, kinasins, cytokines,
interferons, interleukins, G-protein coupled receptors and thiosererases.
The present sequence is a peptide encoded by them may be used in the
present sequence is a peptide encoded by them may be used in the
prevention, diagnosis and treatment of diseases associated with
inappropriate expression of the proteins listed above. Disorders that may
be prevented, diagnosed and/or treatment include multifactorial diseases
with a genetic component, such as autoimmune diseases (e.g. rheumatoid
arthritis, multiple sclerosis, diabetes, systemic lupus erythromatosus
cand Grave's adisease), inflammation, cancer (e.g. cancers of the bladder,
brain, breast, colon and kidney, leukaemia), diseases of the nervous
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Genomic database, mass spectrometer; proteomic business; pharmaceutical; nuclear transport; signalling pathway; cellular organelle,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Identifying coding sequence in genomic databases for conducting proteomics business, by using polypeptide sequence information obtained from peptide sequencing projects, especially those using mass
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to a method for identifying coding sequence in genomic databases, by using polypeptide sequence information obtained from peptide sequencing projects, especially those using mass spectrometers. It is useful for conducting a proteomics business. It is
                                     Disclosure; Page 3829; 4143pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Arabidopsis thaliana $11 peptide #6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 1; Page 41; 100pp; English.
autoimmune diseases and infections.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAE32223 standard; peptide; 15 AA.
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20-APR-2001; 2001US-0285362P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24-MAR-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Arabidopsis thaliana
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 14 AA;
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also used for establishing a distribution system for distributing the pharmaceutical preparation for sale, and may optionally include setablishing a sales group for marketing the pharmaceutical preparation. It is also used for predicting the gene structure, such as intron/exon boundaries; for searching genomic databases for sequences derived from multi-protein complexes e.g. assemblies with a particular function such as splicing, transport or nuclear import or export; for elucidating transient rather than structural complexes (that are involved in signalling pathways) and for identifying proteins in cellular organelles. The present sequence is Arabidopsis thaliana peptide used to illustrate the method of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Peptides AAW42943-46 are immunogenic peptides corresponding to immunogenic epitopes of the Hepatitis A virus (HAV). The peptides are "substantially similar to a portion of the amino acid sequence of the P3A protein of HAV corresponding to amino acids 1423-1496. The present peptide is derived from anino acids 1430-1449 and has a reactivity of 58.5% with acute sera. Compositions containing the peptides can be used to induce an immune response to HAV in amman. The peptides can also be used to detect the presence of antibodies against HAV in mammalian serum. The peptides can also be used to make an antibody against HAV by administering the peptide to a mammal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Immunogenic peptide; immunogenic epitope; P3A protein; immune response;
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                                                                                                                                                                                                                                                       n 95.0%; Score 19; DB 6; Length 15; Similarity 100.0%; Pred. No. 1.98+02; 4; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAW42944 standard; peptide; 20 AA.
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Best Local Similarity
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Matches
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95.0%; Score 19; DB 4; Length 14; 100.0%; Pred. No. 1.8e+02; ive 0; Mismatches 0; Indels

Page 17

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Query Match
Best Local Similarity
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                                                                                 Hepatitis A virus
Synthetic.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Immunogenic Hepatitis A Virus (HAV) peptide(s) - used to induce an immune response to HAV in a mammal or to detect the presence of antibodies against HAV in a mammal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Peptides AAW42943-46 are immunogenic peptides corresponding to immunogenic epitopes of the Hepatitis A virus (HAV). The peptides are substantially similar to a portion of the amino acid sequence of the P3A protein of HAV corresponding to amino acids 1423-1496. The present peptide is derived from amino acids 1421-1440 and has a reactivity of 63.4% with acute sera. Compositions containing the peptides can be used to detect the presence of antibodies against HAV in mammalian serum. The peptides can also be used to make an antibody against HAV by administering the peptide to a mammal
                                                                                                                                                                                                                               Immunogenic peptide; immunogenic epitope; P3A protein; immune response; antibody.
                    Gaps
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      Pred. No. 2.6e+02;
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100.0%; Pred. .v.
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                                                                                                                                AAW42943 standard; peptide; 20 AA.
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    Best Local Similarity 100.
Matches 4; Conservative
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Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                                                                                                    Hepatitis A virus.
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The present sequence is one of a number of synthetic peptides which are immunoreactive with hepatitis A virus (HAV) antibodies. The peptides comprise antigenic epitopes of the major structural capsid polypeptides or or non-structural polypeptides of HAV with one or more glutamine cornected the presence of antibodies against HAV in mammalian serum, to detect the presence of AHV in a human or animal through the binding of the peptide to an antibody, to detect acute phase infection by detecting ISM antibodies in mammalian serum and detecting convalescence in mammalian serum and detecting convalescence in samples in clinical or research-based assays using immunoblotting, fluorescence in situ hybridisation analysis, gel-mobility shift assays, tracking of radioactive or bioluminescent markers, Okromatography or electrophoresis. The peptides are used to induce an immune response to HAV when administered to a human or animal. Glutamine at the carboxy end the peptides enhances the ISM antibody reactivity
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                                                                                   Hepatitis A virus; HAV; immunogen; immunostimulant; virucide; vaccine antigen; major structural capsid polypeptide; HAV antibody detection.
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Synthetic HAV P3A peptide, SEQ ID NO: 62.
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25-JAN-2001
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                                                                                                                                                                                     The present sequence is one of a number of synthetic peptides which hard immunoreactive with hepetidis A virus (HAV) antibodies. The peptides comprise antigenic epitopes of the major structural capsid polypeptides or non-structural polypeptides of HAV with one or more glutamine molecules at the carboxy and of the peptide. The peptides are used to detect the presence of antibodies against HAV in mammalian serum, to detect the presence of HAV in a human or animal through the binding of the peptide to an antibody, to detect acute phase infection by detecting ISM antibodies in mammalian serum and detecting convalescence in a mammal. The peptides are used to detect or quantify HAV antibodies in samples in clinical or research-based assays using immunoblotting.

Illuorescence in situ hybridisation analysis, gel-mobility shift assays, tracking of radioactive or bioluminescent markers, chromatography or electrophoresis. The peptides are used to induce an immune response to that when administered to a human or animal. Glutamine at the carboxy end of the peptides enhances the ISM antibody reactivity
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Pred. No. 2.7e+02;
0; Mismatches 0;
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                                                                        (USSH ) US DEPT HEALTH & HUMAN SERVICES.
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                                                                                                                                                                    Claim 22; Page 109; 130pp; English.
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ilarity 100.0%; Po
Conservative 0;
                               14-JUL-2000; 2000WO-US019267
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                                                                                            Khudyakov YE,
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es 4; Conserv
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                                                                                            fields HA,
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Matches
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Immunogenic Hepatitis A Virus (HAV) peptide(s) - used to induce an immune response to HAV in a mammal or to detect the presence of antibodies against HAV in a mammal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present sequence is one of a number of synthetic peptides which are immunoreactive with hepatitis A virus (HAV) antibodies. The peptides comprises antigenic epitopes of the major structural capsid polypeptides or non-structural polypeptides of HAV with one or more glutamine molecules at the carboxy end of the peptide. The peptides are used to detect the presence of antibodies against HAV in mammalian serum, to detect the presence of AAV in human or animal through the binding of the peptide to an antibody, to detect acute phase infection by detecting IgM antibodies in mammalian serum and detecting convalescence in a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hepatitis A virus; HAV; immunogen; immunostimulant; virucide; vaccine; antigen; major structural capsid polypeptide; HAV antibody detection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Synthetic peptides used as antigen sources for enzyme immunoassays detecting anti-hepatitis A virus and as vaccines.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               95.0%; Score 19; DB 2; Ler
100.0%; Pred. No. 3.3e+02;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic HAV P3A peptide, SEQ ID NO: 65.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (USSH ) US DEPT HEALTH & HUMAN SERVICES.
                                                                                                                                                                Claim 33; Page 115; 140pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 22; Page 110; 130pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAB69465 standard; peptide; 25 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14-JUL-2000; 2000WO-US019267.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-0144412P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20-APR-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Khudyakov YE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2001-112681/12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hepatitis A virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 VAEF 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 25 AA;
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AAM33910 standard; protein; 28 AA.
                                                                                                                                                                                  Homo sapiens.
                                                                                                                                                                                                                                                                                                                                    30-JUN-2000;
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                                                                                                                                                                                                                                                                                                       04-FEB-2000;
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                                                                           17-0CT-2001
                                                                                                                                                                                                                                             09-AUG-2001
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                                              AAM33910;
RESULT 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABG55464
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Peptide NT71 (AAW17832) was obtd. by trypsin digestion of human liver mevalonate pyrophosphate decarboxylase (MDD) (AAW17831), an enzyme of the cholesterol blosynthetic pathway. The sequence of the peptide was used to design PCR primers utilised in the amplification of cDNA from a rat liver cDNA library. A rat MDD partial clone was obtd. and used as a probe to screen a human liver cDNA library, A 1800 by sequence (AAT66464) coding for human MDD was identified
mammal. The peptides are used to detect or quantify HAV antibodies in samples in clinical or research-based assays using immunoblotting, fluorescence in situ hybridiation analysis, gel-mobility shift assays, tracking of radioactive or bioluminescent markers, chromatography or electrophoresis. The peptides are used to induce an immune response to HAV when administered to a human or animal. Glutamine at the carboxy end of the peptides enhances the IgM antibody reactivity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human mevalonate pyrophosphate decarboxylase coding sequence - used screening for MPD inhibitors, which regulate and control cholesterol synthesis.
                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                Human mevalonate pyrophosphate decarboxylase peptide NT71.
                                                                                                                                                  Similarity 100.0%; Pred. No. 3.38+02;
4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 95.0%; Score 19; DB 2; Length 28; Best Local Similarity 100.0%; Pred. No. 3.7e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                              Mevalonate pyrophosphate decarboxylase; MPD; cholesterol.
                                                                                                                                                                                                                                                                                                                       AAW17832 standard; peptide; 28 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 3; Page 10; 37pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96WO-EP004394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             95US-0005652P
                                                                                                                                                                                                                                                                                                                                                                                    29-JUL-1997 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Huwyler LR;
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                                                                                                                                                  Query Match
Best Local Similarity
Matches 4; Conserv
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                                                                                                                                                                                                                                             VAEF 6
                                                                                                                                                                                                                2 VAEF 5
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                                                                                                                        Sequence 25 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10-OCT-1996;
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Human genome-derived single exon nucleic acid probes useful for analyzing
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                                            Peptide #7947 encoded by probe for measuring placental gene expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; liver; cirrhosis; hyperlipoproteinaemia; hyperlipidaemia;
hypercholesterolaemia; coronary heart disease.
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                                                                                        Probe; microarray; human; placenta; antenatal diagnosis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 27; SEQ ID NO 34179; 654pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ВŖ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human liver peptide, SEQ ID No 34112.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Penn SG, Hanzel DK, Chen W, Rank
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene expression in human placenta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABG55464 standard; peptide; 28 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (MOLE-) MOLECULAR DYNAMICS INC
                                                                                                                                                                                                                                                                                                                                                                     2000US-0207456P.
2000US-00608408.
2000US-00632366.
                                                                                                                                                                                                                                                                                                                                                                                                                                     21-SEP-2000; 2000US-0234687P.
27-SEP-2000; 2000US-0236359P.
04-OCT-2000; 2000GB-00024263.
                                                                                                                                                                                                                                                                                                                                               2000US-0180312F.
                                                                                                                                                                                                                                                                                                   30-JAN-2001; 2001WO-US000663.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ouery Match
Best Local Similarity 100.00
Best Local 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     human genetic disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2001-488897/53
                                                                                                                genetic disorder
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 VAEF 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 28 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200157273-A2.
                                                                                                                                                                                                        WO200157272-A2
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RESULT 27

09-AUG-2001

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Hermansky-Pudlak syndrome; sarcoidosis; pulmonary haemosiderosis; pulmonary histiocytosis; lymphangioleiomyomtosis; Karagener syndrome; pulmonary alveolar proteinosis; fibrocystic pulmonary dysplasia; primary ciliary dyskinesis; pulmonary hypertension; hyaline membrane disease.
                                                                                                                                                                                            Claim 27; SEQ ID NO 34112; 658pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABG43601 standard; peptide; 28 AA.
                                                 26-MAY-2000; 2000US-0207456P.
30-UUN-2000; 2000US-00608408.
03-AUG-2000; 2000US-0034687P.
27-SEP-2000; 2000US-0234687P.
27-SEP-2000; 2000US-0234539P.
04-OCT-2000; 2000GB-00024263.
                                                                                                               (MOLE-) MOLECULAR DYNAMICS INC
                        30-JAN-2001; 2001WO-US000664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19-AUG-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                    4; Conservative
                                                                                                                                 Hanzel DK,
                                                                                                                                                  WPI; 2001-488898/53.
                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                Sequence 28 AA;
                                                                                                                                                                                                                                                                                                                                                                                                    2 VAEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABG43601;
                                                                                                                                Penn SG,
                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 29
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABG4360:
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The invention relates for a spatially addressable set of shalls exon nucleic acid probes for measuring gene expression in a sample derived from human lung comprising single exon nucleic acid probes having one of from human lung comprising the norel set of probes of probes an included are a microarray comprising the norel set of probes of probes which hybridise at high stringency to a nucleic acid expressed in the human lung, measuring gene expression in a sample derived from human lung, comprising (a) contacting the array with a collection of detectably labeled nucleic acids derived from human lung measuring the label detectably bound to each probe of the array; identifying exons in a eukaryotic ganome, comprising (a) algorithmically predicting at least one exon from genomic sequences of the eukaryotic and (b) detecting specific thy bybridistation of detectably labeled nucleic acids from enkaryote lung mRNA, to a single exon probe, having a fragment identical to the predicted exon from genomic sequence of the aving a fragment identifying exons from genomic sequence by the method and or call types under the exons from genomic sequence by the method comprising (a) identifying exons from genomic sequence by the method exon mittened microarray assigning exons to a single exon probe, comprising (a) identifying exons in the tissues and/or call types under probe with the exon, where a common pattern of microarrays having a probe with the exon, where a common pattern of microarrays having a probe with the exon, where a common pattern of analysis, and for identifying exons in a gene, particularly using human comparisor, and for identifying exons in the specification, or encoded by the of ing genice and particularly using human cancer, chronic obstructive pulmonary disease (COPP), interstitial lung cancer, chronic obstructive pulmonary disease (LDD), familial idiopathic pulmonary fibrosis, pulmonary hypertension and hyper profession and expense sequence as profession of the invention. Note: The sequence data for this gat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Spatially-addressable set of single exon nucleic acid probes, used to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The invention relates to a spatially-addressable set of single exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         the printed specification, but was obtained in electronic forectly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match

95.0%; Score 19; DB 5; Length 28;
Best Local Similarity 100.0%; Pred. No. 3.70+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 measure gene expression in human lung samples.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 27; SEQ ID NO 33266; 634pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                      Chen W, Rank DR;
                                                                                                                                                            26-MAY-2000; 2000US-0207456P.
30-JUN-2000; 2000US-00608408.
03-AUG-2000; 2000US-00632366.
27-SEP-2000; 2000US-0234687P.
27-CEP-2000; 2000US-0236359P.
                                                                                                                                                                                                                                                                                                                                                                (MOLE-) MOLECULAR DYNAMICS INC
                                                                           30-JAN-2001; 2001WO-US000665
                                                                                                                                                                                                                                                                                                                                                                                                                      Hanzel DK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2002-114183/15.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 28 AA;
                        15-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                      Penn SG,
The invention relates to a single exon nucleic acid probe (SENP) (1) for measuring human gene expression in a sample derived from human adult liver. Comprising one of 13109 defined nucleotide sequences given in the specification (or complements/ fragments). The probe hybridises at high stringency to a nucleic acid molecule expressed in the human adult liver. (1) may be used for predicting, measuring and displaying gene expression in samples derived from human adult liver. The genes identified may be in samples derived from human adult liver. The genes identified may be invertipoproteinsemia, hyperlipidaemia and hypercholesterolaemia which is associated with coronary heart disease. ABG47348-ABG5930 represent human liver single exon encoded peptides of the invention. Note: The sequence information for this patent does not appear in the printed specification but was obtained in electronic format directly from WIPO at the wipper sequences.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human genome-derived single exon nucleic acid probes useful for analyzing gene expression in human adult liver.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human peptide encoded by genome-derived single exon probe SEQ ID 33266.
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WO200186003-A2

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09-AUG-2001
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                                                                                                                                                                                                                                                                                                                                                                                       Streptococcus pneumoniae polynucleotides - useful for developing products for diagnosis, prevention and treatment of infections e.g. pneumonia, bacteremia, meningitis or endocarditis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             The sequence is that of a Streptococcal polypeptide. The polypeptide can potentially be used for the diagnosis and prevention of bacterial infections, especially SP infection. It may be used for the treatment of diseases such as otitis media, conjunctivitis, pneumonia, bacteremia, meningitis, sinusitis, pleural empyema, endocarditis or infection of the cerebrospinal fluid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; immune; haematopoietic; immune/haematopoietic antigen; cancer; cytostatic; gene therapy; vaccine; metastasis.
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                                                                                                                               Polypeptide, ORF, open reading frame; infection; bacterial; streptococcal; bacteremia; diagnosis; prophylaxis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity 100.0%; Srore 19; DB 2; Length 30; Similarity 100.0%; Pred. No. 4e+02; 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human immune/haematopoietic antigen SEQ ID NO:10247.
                                                                                                                                                                                                                                                                                                                             Black MT, Hodgson JE, Knowles DJC,
Reid RH, Zarfos PN;
                                                                                                         Streptococcus pneumoniae polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAM82654 standard; protein; 32 AA.
                                  AAW62760 standard; protein; 30 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 5; Page 32; 181pp; English.
                                                                                                                                                                                                                                                                                          (SMIK ) SMITHKLINE BEECHAM CORP. (SMIK ) SMITHKLINE BEECHAM PLC.
                                                                                                                                                                                                                                                                    96US-0031879P
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                                                                                  (first entry)
                                                                                                                                                                     Streptococcus pneumoniae.
                                                                                                                                                                                                                                                                                                                                                                   WPI; 1998-322654/28.
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Best Local Similarity
Matches 4; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 30 AA;
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                                                                                                                                                                                                                                            24-NOV-1997;
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                                                                                  09-NOV-1998
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                                                            AAW62760;
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2000US-0226279P.
2000US-0226681P.
2000US-0226868P.
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14-AUG-2000; 2000US-0225270P
14-AUG-2000; 2000US-0225447P
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23-AUG-2000; 2000US-0227009P.
30-AUG-2000; 2000US-0228924P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-SEP-2000; 2000US-0229287P
01-SEP-2000; 2000US-0229343P
01-SEP-2000; 2000US-0229344P
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2000US-0229509P.
2000US-0229513P.
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2000US-0225759P
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17-JAN-2001; 2001WO-US001354
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N-PSDB; AAK55435

us-09-594-978a-1.rag

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17-NOV-2000; 2000US-0249264F.
17-NOV-2000; 2000US-0249265F.
17-NOV-2000; 2000US-0249297F.
17-NOV-2000; 2000US-0249297F.
17-NOV-2000; 2000US-0249297F.
17-NOV-2000; 2000US-024929F.
17-NOV-2000; 2000US-024929F.
17-NOV-2000; 2000US-025989F.
05-DEC-2000; 2000US-025198F.
05-DEC-2000; 2000US-025198F.
06-DEC-2000; 2000US-02519F.
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2000US-0246613P
2000US-0249209P
2000US-0249209P
2000US-0249210P
2000US-0249211P
2000US-0249211P
2000US-0249211P
2000US-0249213P
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2000US-0249216P.
2000US-0249217P.
2000US-0249218P.
2000US-0249244P.
2000US-0249244P.
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                                                        02-0CT-2000; 20-0CT-2000; 20-0C
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01-NOV-2000)
08-NOV-2000)
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17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
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17-NOV-2000;
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17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
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Barash SC, Ruben SM;

Rosen CA,

WPI; 2001-483426/52.

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AAK54951 to AAK64702 encode the human immune/haematopoietic antigen (I)

amino acid sequences given in AAM82170 to AAM91921. (I) have cytostatic
activity, and can be used in gene therapy and vaccine production. (I)
cativity, and can be used in gene therapy and vaccine production. (I)
proteins and polymucleotides may be used in the prevention, diagnosis and
treatment of diseases associated with inappropriate (I) expression. For
example, they may be used to treat disorders associated with decreased
expression by rectifying mutations or deletions in a patient's genome
that affect the activity of (I) by expressing inactive proteins or to
supplement the patients own production of (I). Additionally (I)
polymucleotides may be used to produce the secreted (I). by inserting the
protein. (I) proteins and polymucleotides may be used to provent,
diagnose and treat immune/haematopoietic-related diseases, especially
concers and cancer metastases of haematopoietic-derived cells. AAK64703
to AAK87694 represent human immune/haematopoietic antigen genomic
to AAK87694 represent invention. AAK84942 to AAK8450 and AAM82169
sequences from the present invention of the present invention
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                                   Nucleic acids encoding human immune/hematopoietic antigen polypeptides, useful for preventing, diagnosing and/or treating cancers and metastasis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human, cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation.
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                                                                                        Claim 11; SEQ ID NO 10247; 3071pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               95.0%; Score 19; DB 4; Length 32; 100.0%; Pred. No. 4.3e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human polypeptide SEQ ID NO 22916.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAO09024 standard; protein; 33 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          26-FEB-2001; 2001WO-US004927.
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18-MAY-2000; 2000US-00577409.
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Best Local Similarity 100.00
The 4; Conservative
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N-PSDB; AAI88955.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 32 AA;
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the encoded proteins (AA0000010-AA013910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polymentides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. seem cell growth factor activity, hammanopolesis regulating activity, tissue growth factor activity, immunomodulatory activity and activity intended system disorders, arthritis and inflammation. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at fip.wipo.int/pub/published\_pct\_sequences The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AAO00010-AAO13910) that exhibit activity elating

Sequence 33 AA;

95.0%; Score 19; DB 4; Length 33; 100.0%; Pred. No. 4.4e+02; ive 0; Mismatches 0; Indels Query Match
Best Local Similarity 100.
Matches 4; Conservative 2 VAEF 5 ≿ ă

3 VAEF 6

ESULT 33 AR77953

AAR77953 standard; peptide; 35 AA. AAR77953; Antigenic Tbp2 peptide TBP2-21.

(first entry)

09-OCT-1996

Tbpl; Tbp2; transferrin receptor operon; vaccine; antigen; non-typable strain; Haemophilus influenzae; meningitis.

Synthetic.

WO9513370-A1

94WO-CA000616 07-NOV-1994; 18-MAY-1995.

93US-00148968. 08-NOV-1993; 29-DEC-1993;

(CONN-) CONNAUGHT LAB LTD.

Chong P, Gray-Owen S; Harkness R, Schryvers A, lin A, Klein M; Loosmore S, Harkne Yang Y, Murdin A,

WPI; 1995-194089/25.

Nucleic acids encoding Haemophilus transferrin receptor - used to develop prods for detection and in diagnosis, prevention and treatment of Haemophilus infection.

Example 16; Page 72; 231pp; English.

AAR77933-969 are predicted antigenic peptides derived from conserved regions of the Tbp2 protein from H. influenzae strains Eagan, MinnA, DL63 and non-typable strain PAK12085. The transferrin receptor (TfR) operon consists of two genes (Tbp1 and Tbp2) arranged in tandem and which are transcribed from a single promoter. H. influenzae TfR is iron- and/or haemin-regulated and a putative fur-binding site has been identified upstream of tbp2. Antibodies blocking this binding site may prevent bacterial growth. Fragments of the TfR (or its genes) are useful in vaccines to provide protection against, e.g. bacterial meningitis. An advantage of using the TfR is that it shares homology with TfR of other 

ö H. influenzae strains including non-typable strains. According to the specification the present sequence shows residues 449-484 of Tbp2 from the H. influenzae strain Eagan Gaps .. 0 95.0%; Score 19; DB 2; Length 35; 100.0%; Pred. No. 4.7e+02; ive 0; Mismatches 0; Indels 4; Conservative Best Local Similarity Matches 4; Conser 14 VAEF 17 2 VAEF 5 Sequence 35 AA; Query Match 888888 ઠ a

RESULT 34

AAW46146 standard; protein; 35 AA.

AAW46146;

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Gaps ; 0 (first entry) 05-MAY-1998

Predicted antigenic Tbpl peptide TBP2-21.

Transferrin receptor; Haemophilus influenzae type b; iron; human transferrin; iron source; antibody; bacterial growth; vaccine; immunogenic truncated analogue; antigen; Tbp1; Tbp2.

Synthetic. Haemophilus influenzae.

WO9640929-A2

19-DEC-1996,

96WO-CA000399. 1996; 95US-00483577. 96US-00649518. 07-JUN-1995; 17-MAY-1996;

(CONN-) CONNAUGHT LAB LTD.

Gray-Owen S; Chong P, Schryvers AB, Klein MH; Harkness RE, Loosmore SM, Harknel Yang Y, Murdin AD,

WPI; 1997-052329/05.

- used Haemophilus truncated transferrin receptor protein analogue, Tbp2 - L to induce protection against disease caused by transferrin producing pathogens, or as antigen to detect Haemophilus TfR antibodies. 

Example 16; Page 70; 228pp; English.

protein of Haemophilus influenzae type b. The deduced mino acid receptor, of which The is also a subunit. The deduced amino acid sequences of The is also a subunit. The deduced amino acid canners of The is above peptides are derived from these regions, the identified. The above peptides are derived from these regions, the present peptide being derived from residues 449-448. Iron is an essential quirtient for the growth of these bacteria, and they can utilise human transferrin as a source of iron. Antibodies which block the access of the transferrin receptor. To its Iron source prevent bacterial growth. The transferrin receptor, or fragments, therefore, are good vaccine candidates. An immunogenic composition comprising (or encoding) the immunogenic truncated analogue can be used to induce protection against a disease caused by a bacterial pathogen that produces the transferrin receptor. The immunogenic truncated analogue is also useful as an antigen in immunosassys for the detection of Haemophilus transferrin receptor antibodies, while the nucleic acid molecule can be used as a natideal physidisation probe for the detection of other transferrin receptor genes

Sequence 35 AA;

RESULT 3

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The present sequence represents the NH2-terminal amino acid sequence of aquaporin-1 (AQP-1), isolated from human erythrocytes. AQP-1 is a water channel protein. Water channel proteins regulate the passage of water in and out of cells, in response to osmotic changes. The DNA encoding AQP-1 is useful for the recombinant production of AQP-1, found in mammalian erythrocytes, and is useful in the study to identify reagents which enhance or inhibit water channel function. This can lead to therapeutics which enhance secretion e.g. in the case of dryness of eyes which can lead to blindness or to hydrate large respiratory airways, as their dryness can precipitate asthma
                                                                                                                                                                                                                                                                                                                                              /label= Unknown
/note= "not specified but is given as Ser in the full
length protein given in AAW55786"
                                                                                                                                                                              Human, aquaporin-1; AQP-1; water channel protein; regulation; osmotic change; erythrocyte; dryness; blindness; hydration; asthma; secretion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Polynucleotide(s) encoding water channel protein Aquaporin-1 for recombinant production of protein for activity studies.
                                                                                                                                               Human aquaporin-1 NH2-terminal amino acid sequence CHIP28.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 100.0%; Pred. No. 4.7e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAW54105 standard; peptide; 35 AA.
                               AAW55788 standard; peptide; 35 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example 2; Col 20; 48pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Tbp2 antigenic peptide TBP2-21.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            95US-00468763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  92US-00930168
95US-00393996
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                                                                                                             (first entry)
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                                                                                                                                                                                                                                                                                                               Key
Misc-difference
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                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  17-AUG-1992;
24-FEB-1995;
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                                                                       AAW55788;
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AAW54105
ID AAW54
XX
AC AAW54
XX
DT 20-JU
XX
DE Tbp2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This invention describes a novel isolated and purified nucleic acid (I) encoding an immunogenic, C-terminally truncated analog of one of the transferrin receptor proteins They of Haemophilus influenzee which has antibacterial activity. (I) are used for recombinant production of truncated They; as probes and primers for detecting, and diagnosing infection by, Haemophilus, also for isolating similar sequences from other bacteria; as immunogens for vaccinating against infections caused by bacteria that produce transferrin receptors, e.g. Haemophilus, Neisseria or Branhamella. The truncated proteins are useful as immunogens (as above); for diagnosing infection (as antigens in immunoseasys) and for raising antibodies, used for diagnosis of infections or for passive immunization. AAX51695-Y51767 represent H. influenzee transferrin receptor proteins Tbpl and Tbp2 antigenic peptide fragments
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                                                                                                                                                                                                                                                                                                                                                                                           Transferrin receptor; Tbp1; Tbp2; immunogenic; antibacterial; vaccine;
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                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Haemophilus truncated transferrin receptor protein analogue, Tbp2 - u
to induce protection against disease caused by transferrin producing
pathogens, or as antigen to detect Haemophilus TfR antibodies.
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DB 2; Lens.
5. 4.7e+02; Indels
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                                                                                                                                                                                                                                                                                                                                                     H. influenzae antigenic Tbp2 peptide TBP2-21.
                  Score 19; DB
Pred. No. 4:50; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Schryvers A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 16; Col 39-40; 281pp; English
    95.0%; Scor.
100.0%; Pre
                                                                                                                                                                                                                                   AAY51751 standard; protein; 35 AA
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93US-00175116.
94US-00337483.
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Murdin A, Klein M, Chong P;
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                                                                                                                                                                                                                                                                                                                 (first entry)
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                Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Haemophilus influenzae.
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08-NOV-1994;
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                                                                                                                                                                                                                                                                                                                                                                                                                  diagnosis.
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Gaps

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Peptides AAW51086-W53100 and peptides AAW54100-W54122 are derived from the Tbp2 protein is one of two proteins with genes found on the transferrin operon. These peptides can be used along with the genes, DNA sequences and recombinant proteins for diagnosis, immunisation and the generation of diagnostic and immunological reagents. They can also be used to protect from bacteria that produce transferrin
                                                                                                                                                                                                                                                                                                                                                                     Purification of recombinant Haemophilus transferrin-binding protein solubilising inclusion bodies separated from cell lysate.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rat; aquaporin-5; AQP5; AQP1; transmembrane water channel protein; major intrinsic protein; MIP; CHIP28.
                                                                                                                                                                                                                                                                                        Harkness R, Loosmore S, Yang Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          h Similarity 100.0%; Score 19; DB 2; Length 35; Similarity 100.0%; Pred. No. 4.70+02; 4; Conservative 0; Mismatches 0; Indels
                 tbp1; tbp2; vaccine; H. influenzae; antibody; diagnosis;
                                passive immunisation; transferrin receptor operon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human aquaporin-1 (CHIP28) N-terminal peptide.
                                                                                                                                                                                                                                                                                                                                                                                                                    Example 16/17; Column 37-38; 261pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /note= "unspecified"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAW94320 standard; peptide; 35 AA.
                                                                                                                                                                                       93US-00148968.
93US-00175116.
94US-00337483.
                                                                                                                                                          95US-00487890
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                                                                                                                                                                                                                                                        (CONN-) CONNAUGHT LAB LID.
                                                                                                                                                                                                                                                                                     Gray-Owen S, Klein M,
Murdin A, Schryvers A;
                                                              Haemophilus influenzae
                                                                                                                                                                                                                                                                                                                                      WPI; 1998-100410/09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  receptor protein
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Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 35 AA;
                                                                                                                                                                                       08-NOV-1993;
29-DEC-1993;
08-NOV-1994;
                                                                                                                                                          17-JUN-1995;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24-FEB-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12-APR-1999
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                                                                                             JS5708149-A
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91US-00806273

13-DEC-1991;

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                                                                                                                                                                              The present invention describes a water channel protein called aquaporin-
5 (AQP5). The polynucleotide encoding AQP5 is useful for producing
recombinant AQP5, which can be incorporated into proteoliposomes or cell
membrane vesicles which are able to be used in screening assays for water
channel agonists or antagonists. The present sequence represents the N-
terminal peptide from AQP1 (also called CHIP28), from an example of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Antibodies specific for transferrin receptor proteins of Haemophilus influenzae, useful for treating otitis media, epiglottitis, pneumonia and
                                                                                                            DNA encoding aquaporin-5 water channel protein - useful for producing recombinant protein.
                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to novel antibodies (or monospecific antisera) specific for single transferrin receptor proteins (or immunogenic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Antibacterial; antiinflammatory; auditory; respiratory; antibody; antiserum; transferrin receptor; immunogen; epitope; otitis media; bacterial meningitis; epiglottitis; pneumonia; tracheobronchitis.
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                                                                                                                                                                                                                                                                                                                            95.0%; Score 19; DB 2; Length 35; 100.0%; Pred. No. 4.7e+02; rive 0; Mismatches 0; Indels

    H. influenzae transferrin receptor Tbp1 epitope TBP2-21.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure, Col 37-38; 252pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chong P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ā
                                                                                                                                                        Example 2; Col 20; 47pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAY80448 standard; peptide; 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              93US-00148968.
93US-00175116.
95US-00337483.
92US-00930168.
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                           (UYJO ) UNIV JOHNS HOPKINS
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                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.
Matches 4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Schryvers A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Haemophilus influenzae.
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                                                                                  WPI; 1999-152100/13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tracheobronchitis.
                                                                                                                                                                                                                                                                       present invention
                                                                                                                                                                                                                                                                                                                                                                                                                   14 VAEF 17
                                                                                                                                                                                                                                                                                                                                                                                       2 VAEF 5
                                                                                                                                                                                                                                                                                                    Sequence 35 AA;
17-AUG-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    07-JUN-1995;
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08-NOV-1995;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-DEC-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAY80448;
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                                                        Agre PC;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Staphylococcus aureus protein; ribozyme; antisense sequence; control; Staphylococcal gene; regulatory element; bacterial gene expression; vaccine; Staphylococcal infection; food poisoning; scaled skin syndrome;
fragment) from strains of Haemophilus influenzae. This sequence corresponds to an epitope from the H. influenzae transferrin receptor protein TDp2. The antibodies may be used for preventing and treating infections and disorders caused by H. influenzae, including bacterial meningitis, otitis media, epiglottitis, pneumonia and tracheobronchitis. The antibodies may also be used detect the presence of H. influenzae proteins in samples according to standard methodologies (e.g. enzyme linked immunosorbant assay (ELISA)) and hence diagnose infections
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Novel polypeptide(s) from Staphylococcus aureus strain WCUH29 - used to isolate antimicrobial compounds, and in vaccines against S. aureus
                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hodgson JE, Knowles DJC, Nicholas RO;
Rosenberg M, Ward JM;
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                                                                                                                                                                                                    95.0%; Score 19; DB 3; Length 35; 100.0%; Pred. No. 4.7e+02; tive 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 UDP-N-acetylglucosamine 1-carboxyvinyltransferase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note= "not specified"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  hey Location/Qualifiers Misc-difference 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 6; Page 272; 989pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                         AAW27782 standard; protein; 36 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (SMIK ) SMITHKLINE BEECHAM CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         97WO-US002318.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          96US-0011888P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                           Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Staphylococcus aureus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         toxic shock syndrome.
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                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 4; Conserv
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                                                                                                                                                                                                                                                                                                              14 VAEF 17
                                                                                                                                                                                                                                                                             2 VAEF 5
                                                                                                                                                                      Sequence 35 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21-JUL-1998
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21-AUG-1997.
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Pratt JM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Infection.
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                                                                                                                                                                                                                                                                                                                                                                     RESULT 40
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produce specific antibodies with antibacterial action. These vaccines and antibodies would protect a host against invasion by S. aureus, and conditions relating to Staphylococcal infection, e.g. Staphylococcal food poisoning, scaled skin syndrome, and toxic shock syndrome
                                                                                                                                                                                                                                                                                                                                             Human, nootropic, neuroprotective, cytostatic; dermatological; virucide; immunosuppressive, antiinflammatory; anti-HIV; antibacterial; vulnerary; antiparkinsonian; antiatickling; antianaemic; antiarchritic; cancer; antiallermatic; hepatotropic; cerebroprotective; antiallammatory; antiallergic; antidiabetic; antiulcer; anticonvulsant; antifungal; antiparasitic; cardiant; immune disorder; cardiovascular disorder; neurological disease; infection; nephrotropic; gene therapy; vaccine;
                                                                                                                     Gaps
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                                                                                           DB 2; Length 36; 4.8e+02;
                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                      Human excretory related polypeptide SEQ ID NO 570.
                                                                                             Query Match 95.0%; Score 19; DB Best Local Similarity 100.0%; Pred. No. 4.8 Matches 4; Conservative 0; Mismatches
                                                                                                                                                                                                                                           AAM99833 standard; protein; 37 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0179065P.
2000US-0180628P.
2000US-0186350P.
2000US-0189874P.
2000US-0198123P.
2000US-0198123P.
2000US-0205513P.
2000US-0205513P.
2000US-0214886P.
2000US-0214886P.
2000US-0214886P.
2000US-0214886P.
2000US-0214886P.
2000US-0214886P.
2000US-021488P.
2000US-021488P.
2000US-021488P.
2000US-021488P.
2000US-0224518P.
2000US-0224518P.
2000US-0224518P.
2000US-0224518P.
2000US-0224518P.
2000US-0224514P.
2000US-0225214P.
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2000US-0225759P.
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                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                excretory system
                                                                                                                                                  2 VAEF 5
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                                                                      Sequence 36 AA;
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17-MAR-2000;
18-APR-2000;
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14-AUG-2000;
14-AUG-2000;
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07-JUN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       02-MAR-2000;
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14-AUG-2000;
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                                                                                                                                                                                                                     RESULT 41
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14-AUG-2000;

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18-AUG-2000) 2000US-0226681P.
22-AUG-2000) 2000US-0226681P.
22-AUG-2000) 2000US-0226681P.
22-AUG-2000) 2000US-022968P.
01-SEP-2000) 2000US-022934P.
01-SEP-2000) 2000US-02393P.
01-SEP-2000) 2000US-023141P.
01-SEP-2000) 2000US-023141P.
01-SEP-2000) 2000US-023141P.
01-SEP-2000) 2000US-023141P.
01-SEP-2000) 2000US-02319P.
02-OCT-2000) 2000US-02319P.
03-SEP-2000) 2000US-02319P.
03-SEP-2000) 2000US-02319P.
03-SEP-2000) 2000US-02319P.
03-OCT-2000) 200US-02319P.
03-OCT-2000) 200US-0319P.
03-OCT-2000)
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08-NOV-2000;
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The invention relates to novel excretory system related human compositions (AAI99567-AAI99503) and the encoded proteins (AAM99594-CAAI99913) useful for preventing, treating or ameliorating medical conditions e.g. by protein or gene therapy, espeically disorders related conditions e.g. by protein or gene therapy, espeically disorders related to the excretory system. The genes are labelad from a range of human contisons and (ant)agonists are useful in the diagnosis, treatment and prevention of: (a) cancer, e.g. breast and ovarian cancer and other cancers of the adrenal gland, bone, bone marrow, breast, gastrointestinal cract, liver, lung, or urogenital; (b) immune disorders e.g. Addison's disease, allergies, autoimmune haemolytic anaemia, autoimmune to thyroiditis, diabetes mellitus, Crohn's disease, multiple softerosis, crhematoid arthritis and ulcerative colitis; (c) cardiovascular disorders such as myocardial ischaemias; (d) wound healing; (e) neurological cuch as wiscardial ischaemias; (d) wound healing; (e) infectious diseases conting a viral, bacterial, fungal and parasitic infections. Note: The sequence data for this patent did not form part of the printed at fitp.wipo.int/pub/published_pot_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Isolated nucleic acid molecule encoding excretory system antigen is in preventing, treating or ameliorating a medical condition.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 11; SEQ ID NO 570; 574pp + Sequence Listing; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rosen CA, Barash SC, Ruben SM,
                                                                                                                                                                                                                                                                                                                                                        01-DEC-2000; 2000US-0250391P.
05-DEC-2000; 2000US-0251030P.
05-DEC-2000; 2000US-0251988P.
06-DEC-2000; 2000US-0255143P.
06-DEC-2000; 2000US-025185P.
08-DEC-2000; 2000US-0251868P.
08-DEC-2000; 2000US-0251868P.
08-DEC-2000; 2000US-0251868P.
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N-PSDB; AAI98806.
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WO200155323-A2
                                                                                                   05-SEP-2000;
05-SEP-2000;
06-SEP-2000;
                              Homo sapiens
                                    02-AUG-2001.
          AAM42648;
    RESULT 42
AAM42648
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2000US-0235834P.
2000US-0235836P.
2000US-0236327P.
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2000US-0240960P.
2000US-0241221P.
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08-NOV-2000;

17-NOV-2000;

17-NOV-2000;
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25-SEP-2000)
27-SEP-2000)
27-SEP-2000)
29-SEP-2000)
29-SEP-2000)
29-SEP-2000)
29-SEP-2000)
20-OCT-2000)
13-OCT-2000)
13-OCT-2000)
20-OCT-2000)
   Human; kidney antigen; immunosuppressive; antiarthritic; antirheumatic; antightoliferative; Otostatic; cardiant; vasotropic; cerebroprotective; nootropic; neuroprotective; antibacterial; virucide; fungicide; opthalmological; antiallergic; hepatotropic; antidiabetic; antillammatory; antiulcer; vulnerary; anticonvulsant; antiparasitic; gene therapy; cancer; immune disorder; cardiovascular disorder; neurological disease; infection.
                                                                                                                                                                                                         Human kidney related polypeptide SEQ ID NO 517
                                                                                                    AAM42648 standard; protein; 37 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  31-JAN-2000; 2000US-0179065P.
24-FEB-2000; 2000US-0186464P.
02-MAR-2000; 2000US-0186464P.
15-MAR-2000; 2000US-0186450P.
16-MAR-2000; 2000US-0189874P.
17-MAR-2000; 2000US-019812P.
07-JUN-2000; 2000US-019812P.
07-JUN-2000; 2000US-0204667P.
07-JUL-2000; 2000US-0214880P.
11-JUL-2000; 2000US-0214880P.
11-JUL-2000; 2000US-0214880P.
11-JUL-2000; 2000US-021480P.
11-JUL-2000; 2000US-021880P.
11-JUL-2000; 2000US-021813P.
11-JUL-2000; 2000US-021813P.
14-JUL-2000; 2000US-021813P.
14-JUL-2000; 2000US-021813P.
14-JUL-2000; 2000US-021813P.
14-JUL-2000; 2000US-021813P.
14-JUL-2000; 2000US-021813P.
14-JUL-2000; 2000US-022813P.
14-JUC-2000; 2000US-022813P.
14-JUC-2000; 2000US-022813P.
14-JUC-2000; 2000US-022814P.
11-JUC-2000; 2000US-022814P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2000US-0229513P
2000US-0230437P
                                                                                                                                                                          22-OCT-2001 (first entry)
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VAEF 17
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Peptide #3978 encoded by probe for measuring cervical gene expression.

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The invention relates to novel kidney related polymucleotides (AAI62971-CC AAI63793) and the encoded polypeptides (AAM42417-AAM42691) collectively known as kidney antigens and the use of such kidney antigens for detecting disorders of the kidney, especially kidney cancer and cancer and kidney cancer and cancer and cancer and cancer and cancer and cancer and cancer, cancer and cancer, cancer and cancer, cancer and cancer and cancer and cancer of the cancer and cancer and cancer and cancer of the cancer and cancer a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 11; SEQ ID NO 517; 564pp + Sequence Listing; English
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New isolated nucleic acids and polypeptides, useful for treating and/or preventing human diseases and disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAM17544 standard; protein; 43 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ruben SM
                                 2000US-0249264P.
2000US-0249264P.
2000US-024929P.
2000US-0249300P.
2000US-025031B.
2000US-025031B.
2000US-025198B.
2000US-025198B.
2000US-025198B.
                                                                                                                                                                                                                                                                                                      2000US-0251868P.
2000US-0251869P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              (HUMA-) HUMAN GENOME SCI INC.
                                                                                                                                                                                                                                                                                                                                                                                                                      05-JAN-2001; 2001US-0259678P
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Barash SC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2001-488784/53.
N-PSDB; AAI63202.
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Best Local Similarity
Matches 4; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 37 AA;
                                                                                                                                                                   01-DEC-2000;
05-DEC-2000;
05-DEC-2000;
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06-DEC-2000;
08-DEC-2000;
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useful for diagnosing,

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The present invention relates to human single exon nucleic acid probes (SENP: see AAI10068-AAI28459). The present sequence is a peptide encoded by one such probe. The SENPs are derived from human HeLa cells. The SENPs measuring human gene expression in a sample derived from human cervical epithelial cells. By measuring gene expression, the probes are therefore useful in grading and/or staging of diseases of the cervix, notably cervical cancer. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from MIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                     Human genome-derived single exon nucleic acid probes useful for analyzing gene expression in human cervical epithelial cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human; microarray; single exon probe; gene expression; breast; disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                   Probe; human; microarray; gene expression; cervical epithelial cell;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Peptide #4013 encoded by breast cell single exon nucleic acid probe.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            95.0%; Score 19; DB 4; Length 43; 100.0%; Pred. No. 5.9e+02; rive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 27; SEQ ID NO 22370; 487pp; English
                                                                                                                                                                                                                                                                                                                                   Rank DR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABB31362 standard; peptide; 43 AA.
                                                                                                                                                                                                                                                                                                         (MOLE-) MOLECULAR DYNAMICS INC
                                                                                                                                                                                                                                                                                                                                   Chen W,
                                                                                                                                                                                                                       30-JUN-2000; 2000US-00608408.
03-AUG-2000; 2000US-00632366.
21-SEP-2000; 2000US-0234687P.
                                                                                                                                                                                                                                                                 27-SEP-2000; 2000US-0236359P.
                                                                                                                                                                30-JAN-2001; 2001WO-US000670.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4; Conservative
                                                                                                                                                                                                                                                                                                                                    Penn SG, Hanzel DK,
                                                                                                                                                                                                                                                                                                                                                                 WPI; 2001-488901/53.
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Best Local Similarity
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                                                     cervical cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 43 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WC200157271-A2.
                                                                                                           WO200157278-A2
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                                                                                  Homo sapiens.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cancer
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30-JAN-2001; 2001WO-US000666
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 VAEF 5
                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 43 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200157273-A2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABG51414;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
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                                                                                                                                                                                                                                                                                         The invention relates to a spatially-addressable set of single exon nucleic acid probes for measuring gene expression in a sample derived from human breast and BT 474 cells. The method involves contacting the probes with a collection of detectably labelled nucleic acids derived from mRNA of human breast, and then measuring the label bound to each probe of the microarray. The probes are useful for verifying the probes are useful for verifying the captons of genomic DNA predicted to encode proteins. They are useful for gene discovery, and for determining predisposition and/or prognosing breast disease. Gene expression analysis is useful for assessing the toxicity of chemical agents on cells. The microarray of this invention presents a far greater diversity of probes for measuring gene expression, with far less bias than expressed sequence tag microarrays. The method is suitable for rapid production of functional information from genomic sequence. The present sequence is a peptide encoded by a single exon nucleic acid probe of the invention. Note: The sequence data for this patent did not form part of the printed sequence to the printed sequence by a single exon betained in electronic format directly from WIPO at the vivo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                 New spatially-addressable set of single exon nucleic acid probes, useful for measuring gene expression in sample derived from human breast, comprises number of single exon nucleic acid probes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Protein #3903 encoded by probe for measuring heart cell gene expression.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                    claim 27; SEQ ID NO 14330; 327pp + Sequence Listing; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human; gene expression; heart; microarray; vascular system; cardiovascular disease; hypertension; cardiac arrhythmia; congenital heart disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  95.0%; Score 19; DB 4; Length 43; 100.0%; Pred. No. 5.9e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                    Chen W, Rank DR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABB21904 standard; protein; 43 AA.
                                                   26-MAY-2000; 2000US-0207456P.
30-JUN-2000; 2000US-006940B.
03-AUG-2000; 2000US-00632366.
21-SEP-2000; 2000US-023468FP.
27-SEP-2000; 2000US-0234559P.
04-OCT-2000; 2000GB-00024263.
                                                                                                                                           (MOLE-) MOLECULAR DYNAMICS INC
                 30-JAN-2001; 2001WO-US000662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
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Best Local Similarity luv...
                                                                                                                                                                    Penn SG, Hanzel DK,
                                                                                                                                                                                           WPI; 2001-496933/54
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 43 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200157274-A2
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The present invention relates to single exon nucleic acid probes for measuring human gene expression in a sample derived from human heart (see MARA1305-ARA41305). The present sequence is a protein encoded by one such probe. The probes may be used for predicting, measuring and displaying gene expression in samples derived from the human heart via microarrays. By measuring gene expression, the probes are useful for predicting, diagnosing, grading, staging, monitoring and prognosing diseases of the human heart and vascular system e.g. cardiovascular disease. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Single exon nucleic acid probes for analyzing gene expression in human hearts.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; liver; cirrhosis; hyperlipoproteinaemia; hyperlipidaemia; hypercholesterolaemia; coronary heart disease.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 15; SEQ ID NO 23674; 530pp; English
                                                                                                                                                                                                                                                                                                                                                          Chen W, Rank DR;
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04-FEB-2000; 2000US-0180312P.
26-MX-2000; 2000US-0207456P.
30-UTN-2000; 2000US-00608408
03-AUG-2000; 2000US-0033366.
21-SFP-2000; 2000US-023468PP.
27-SFP-2000; 2000US-023468PP.
04-OCT-2000; 2000GB-00324269.
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30-JUN-2000; 2000US-00608408.
03-AUG-2000; 2000US-00632366.
21-SEP-2000; 2000US-023468TP.
27-SEP-2000; 2000US-023468TP.
                                                                                                                                                                                                                                                                                  (MOLE-) MOLECULAR DYNAMICS INC
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Chen W, Rank DR;

Hanzel DK,

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Claim 27; SEQ ID NO 30062; 658pp; English
                                                                                                                                                                                               AAM05214 standard; protein; 43 AA.
    (MOLE-) MOLECULAR DYNAMICS INC.
                                                                                                                                                                                                                                                                                  29-JAN-2001; 2001WO-US000661
                                                                                                                                     Query Match
Best Local Similarity 100...
                                                                                                                                  Sequence 43 AA;
                                                                                                                                                                                                                                                               WO200157270-A2
                                                                                                                                                                                                                                                                                                               21-SEP-2000;
27-SEP-2000;
04-OCT-2000;
                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                            04-FEB-2000;
                                                                                                                                                                                                                                                                                                 26-MAY-2000;
                                                                                                                                                                                                                                                                                                     30-JUN-2000;
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             Penn SG,
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(first entry)

Chen W, Rank DR;

Hanzel DK,

Penn SG,

WPI; 2001-476286/51

(MOLE-) MOLECULAR DYNAMICS INC.

2000US-0207456P. 2000US-00608408. 2000US-00632366. 2000US-0234687P. 2000US-0236359P.

95.0%; Score 19; DB 4; Length 43; 100.0%; Pred. No. 5.9e+02; ive 0; Mismatches 0; Indels

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The present invention relates to novel single exon nucleic acid probes (see AA100010-AA110067). The present sequence is a peptide encoded by one auch probe. The probes are useful for measuring human gene expression in a human breast sample, where the probe hybridises at high stringency to a nucleic acid expressed in the human breast. The probes are useful for predicting, diagnosing, grading, staging, monitoring and prognosing diseases of the human breast, particularly those diseases with polygenic actiology. The diseases include: breast cancer, disorders of development inflammatory diseases of the breast, fibrocystic changes, proliferative this patent did not form part of the printed specification, but was obtained in electronic format directly from MIPO at fib. wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The present invention is concerned with producing vaccines against negative stranded RNA viruses. These viruses include measles, respiratory syncytial virus (RSV) and parahifluenza virus (RIV) in particular. The method of the invention comprises the production of a mutated form of the virus which attenueres the strain and enables it to be used as a vaccine. The present sequence comprises a partial viral protein sequence
exon nucleic acid probe used to measuring gene expression in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Producing attenuated negative stranded RNA virus vaccines from cloned gequences, useful for immunizing against e.g. respiratory syncytial virus, human parainfluenza virus, Sendai virus Newcastle disease virus, mumps virus and measles virus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Negative stranded RNA virus; vaccine; attenuated virus; RSV; PIV;
measles; respiratory syncytial virus; parainfluenza virus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 43;
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100.0%; Pred. No. 5.9e+02;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RSV partial protein sequence SEQ ID NO: 26.
                                                                            Claim 27; SEQ ID NO 13954; 322pp; English
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Respiratory syncytial virus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2000-687044/67.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                40 VAEF 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 VAEF 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 43 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200061737-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             13-APR-1999;
       Novel single e:
a human breast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27-FEB-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAB27178;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AB271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to a single exon nucleic acid probe (SENP) (I) for measuring human gene expression in a sample derived from human adult to liver, comprising one of 13109 defined nucleotide sequences given in the specification (or complements/ fragments). The probe hybridises at high stringency to a nucleic acid molecule expressed in the human adult liver. (I) may be used for predicting, measuring and displaying gene expression in samples derived from human adult liver. The genes identified may be involved in genetic liver diseases such as cirrhosis.

Involved in genetic liver diseases such as cirrhosis.

Involved in genetic liver disease. ABG47348-ABG5930 represent human sesociated with coronary heart disease. ABG47348-ABG5930 represent human liver single exon encoded peptides of the invention. Note: The sequence information for this patent does not appear in the printed specification but was obtained in electronic format directly from WIPO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                             Human genome-derived single exon nucleic acid probes useful for analyzing gene expression in human adult liver.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Probe, human; breast disease; breast cancer; development disorder; inflammatory disease; proliferative breast disease; non-carcinoma tumour.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Peptide #3896 encoded by probe for measuring breast gene expression.
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The invention relates to a single exon nucleic acid probe for measuring human gene expression in a sample derived from human foetal liver. The single exon nucleic acid probes may be used for predicting, measuring and displaying gene expression in samples derived from human fetal liver. The present sequence is a peptide encoded by a single exon nucleic acid probe of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from NIPO at ftp.wipo.int/pub/published_pot_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human genome-derived single exon nucleic acid probes useful for analyzing gene expression in human fetal liver.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Peptide #5033 encoded by probe for measuring placental gene expression
                                                                                                                                                                                                                                                                                         Human; foetal liver; gene expression; single exon nucleic acid probe.
                                                                                                                                                                                                                                  Peptide #5084 encoded by human foetal liver single exon probe.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 27; SEQ ID NO 30213; 639pp + Sequence Listing; English.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Probe; microarray; human; placenta; antenatal diagnosis;
genetic disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rank DR
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                                                          ABB37578 standard; peptide; 48 AA.
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26-MX-2000; 2000US-0207456P.
30-UJN-2000; 2000US-00608408
03-AUG-2000; 2000US-00532366.
21-SEP-2000; 2000US-0234687P.
27-SEP-2000; 2000US-0234687P.
04-OCT-2000; 2000GB-00024263.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30-JAN-2001; 2001WO-US000669.
                                                                                                                                                                        (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hanzel DK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2001-483447/52
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                                                                                                                                                                                                                                                                                                                                                                                                    WO200157277-A2.
                                                                                                                                                                                                                                                                                                                                                Homo sapiens
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                                                                                                                                                                        04-FEB-2002
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                                                                                                                 ABB37578;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Penn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
   RESULT 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 51
                        AAM30996
IID AAM3
XX XX XX AAX
XX XX I7-C
DT 17-C
XX XX EPPT
XX XX EPPT
XX EPP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The present invention relates to human single exon nucleic acid probes (SENP): see AALIOOG8-AALIO459). The present sequence is a peptide encoded by one such probe. The SENPS are derived from human Hela cells. The SENPS can be used to produce a single exon microarray, which can be used for measuring human gene expression in a sample derived from human cervical epithelial cells. By measuring gene expression, the probes are therefore useful in grading and/or staging of diseases of the cervix, notably cervical acroer. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human genome-derived single exon nucleic acid probes useful for analyzing gene expression in human cervical epithelial cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Peptide #4975 encoded by probe for measuring cervical gene expression.
                                                                                                                 Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        microarray; gene expression; cervical epithelial cell;
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                                 DB 3; Leng.
o. 6.4e+02;
0; Indels
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                                                          Score 19; DB
Pred. No. 6.4
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 27; SEQ ID NO 23367; 487pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chen W, Rank DR;
                                       95.0%; Scur.
100.0%; Pre
                                                                                                                                                                                                                                                                                                                                                                            AAM18541 standard; protein; 48 AA.
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26-MX-2000; 2000US-0207456P.
30-UJN-2000; 2000US-00608403.
03-AUG-2000; 2000US-023488P.
21-SEP-2000; 2000US-023488P.
04-OCT-2000; 2000US-023488P.
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                        Query Match
Best Local Similarity 100.v.
A; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
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Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                                            34 VAEF 37
                                                                                                                                                                        2 VAEF 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cervical cancer
Sequence 47 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        human;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            09-AUG-2001
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Gaps

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Human genome-derived single exon nucleic acià probes useful for analyzing gene expression in human bone marrow.
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            (MOLE-) MOLECULAR DYNAMICS INC
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30-JUN-2000; 2000US-00608408.
03-AUG-2000; 2000US-00632366.
21-SEP-2000; 2000US-0234687P.
27-SEP-2000; 2000US-023458P.
04-OCT-2000; 2000GB-00024263.
                                        Chen W,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (MOLE-) MOLECULAR DYNAMICS INC
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                                        Penn SG, Hanzel DK,
                                                                 WPI; 2001-488899/53
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Matches 4; Conserv
                                                                                                                                                                                                                                                                                                                                                        Sequence 48 AA;
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                                                                                                                                                                                                                                                                                                Human genome-derived single exon nucleic acid probes useful for analyzing
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Protein #4867 encoded by probe for measuring heart cell gene expression.
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cardiovascular disease, hypertension, cardiac arrhythmia,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 19; DB 4; Length 48;
Pred. No. 6.6e+02;
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100.0%; Pred. No. c...
0; Mismatches
                                                                                                                                                                                                                                                                                                                                           Claim 27; SEQ ID NO 31265; 654pp; English.
                                                                                                                                                                                                                                          Chen W, Rank DR;
                                                                                                                                                                                                                                                                                                              gene expression in human placenta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABB22868 standard; protein; 48 AA.
                                                                                          04-FEB-2000; 2000US-0180312P.
26-MX-2000; 2000US-020456FP.
30-UJN-2000; 2000US-00608408.
03-AUG-2000; 2000US-0033366.
21-SEP-2000; 2000US-0234687P.
27-SEP-2000; 2000US-0234559P.
04-OCT-2000; 2000GB-00024283.
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26-WAY-2000; 2000US-0207456P.
30-UUN-2000; 2000US-00608408.
03-AUG-2000; 2000US-00632366.
21-SEP-2000; 2000US-0234687P.
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2000GB-00024263.
                                                                  30-JAN-2001; 2001WO-US000663
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Best Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  congenital heart disease
                                                                                                                                                                                                                                                                                                                                                                                                                                              human genetic disorders
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 48 AA;
            WO200157272-A2
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04-OCT-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
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                                                                                                                                                                                                                                        Penn SG,
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BB22868
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The present invention relates to single exon nucleic acid probes for measuring human gene expression in a sample derived from human heart (see ARA21355. The present sequence is a protein encoded by one such probe. The probes may be used for predicting, measuring and displaying gene expression in samples derived from the human heart via microarrays. By measuring gene expression, the probes are useful for predicting, diagnosing, grading, staging, monitoring and prognosing diseases of the human heart and vascular system e.g. cardiovascular disease. Note: The sequence data for this pattent did not form part of the printed sequence data for this pattent did not form part of the printed at fip.wipo.int/pub/published_pct_sequences
                                                                                                                                                             Single exon nucleic acid probes for analyzing gene expression in human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human; bone marrow expressed exon; gene expression analysis; probe;
microarray; cancer; leukaemia; lymphoma; myeloma.
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ilarity 100.0%; Pred. No. 6.6e+02;
Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                   Claim 15; SEQ ID NO 24638; 530pp; English.
DR;
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Rank
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Gaps

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The invention relates to a single exon nucleic acid probe (SENP) (1) for measuring human gene expression in a sample derived from human adult liver, comprising one of 13109 defined nucleotide sequences given in the specification for complements fragments). The probe hybridises at high stringency to a nucleic acid molecule expressed in the human adult liver. (1) may be used for predicting, measuring and displaying gene expression in samples derived from human adult liver. The genes identified may be involved in genetic liver diseases such as cirrhosis, hyperlipoproteinsemia, hyperlipidaemia and hypercholesterolaemia which is associated with coronary heart disease. ABGG5930 represent human liver single exon encoded peptides of the invention. Note: The sequence information for this patent does not appear in the printed specification
                                              The present invention provides a number of single exon nucleic acid probes which are derived from genomic sequences expressed in the human bone marrow. They can be used to measure gene expression in bone marrow samples, which may enable the improved diagnosis and treatment of cancers such as lymphoma, leukaemia and myeloma. The present sequence is a protein encoded by one of the probes of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human genome-derived single exon nucleic acid probes useful for analyzing gene expression in human adult liver.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; liver; cirrhosis; hyperlipoproteinaemia; hyperlipidaemia; hypercholesterolaemia; coronary heart disease.
               Example 4; SEQ ID NO 30993; 658pp + Sequence Listing; English
                                                                                                                                                                                                            DB 4; ______o. 6.6e+02; ____o. Indels
                                                                                                                                                                                                                95.0%; Score 19; DB 100.0%; Pred. No. 6.6 cive 0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chen W, Rank DR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human liver peptide, SEQ ID No 31037.
                                                                                                                                                                                                                                                                                                                                                                                                                         ABG52389 standard; peptide; 48 AA.
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30-JUN-2000; 2000US-0060840B,
03-AUG-2000; 2000US-00632366,
21-SEP-2000; 2000US-023468PP,
27-SEP-2000; 2000US-023659P,
04-OCT-2000; 2000GB-00024263.
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                                                                                                                                                                                                              Query Match
Best Local Similarity 100.
Matches 4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2001-488898/53
                                                                                                                                                                                                                                                                                        2 VAEF 5
                                                                                                                                                                                                                                                                                                                              3 VAEF 6
                                                                                                                                                                               Sequence 48 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel single exon nucleic acid probe used to measuring gene expression in a human breast.
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                                                                          95.0%; Score 19; DB 4; Length 48; 100.0%; Pred. No. 6.6e+02; ive 0; Mismatches 0; Indels
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but was obtained in electronic format directly from WIPO ftp.wipo.int/pub/published_pct_sequences
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100.0%; Pred. No. 6.6e+02;
tive 0; Mismatches 0;
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                                                                                                                                                                                                                                                  AAM06107 standard; protein; 48 AA.
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26-MAY-2000; 2000US-0207456F.
30-JUN-2000; 2000US-00608408.
03-AUG-2000; 2000US-00632366.
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27-SEP-2000; 2000US-0236359P
04-OCT-2000; 2000GB-00024263
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                                                            Query Match
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4; Conservative
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Matches 4; Conserv
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                                               Sequence 48 AA;
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AAM06107
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(first entry)

06-NOV-2001

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The invention relates to human polynucleotides (AAI79941-AAI99841) and the encoded proteins (AA000010-AA013910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polyneptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. seem cell growth factor activity, nemacopoiesis regulating activity, tissue growth factor activity, immunomodulatory activity and activity is used growth factor activity, immunomodulatory activity and activity is useful in the diagnosis and/or treatment of cancer, leukaemia, nervous system disorders, arthritis and inflammation. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukemia, inflammation and immune disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation.
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Local Similarity 100.0%; Pred. No. 7.3e+02;
Nes 4; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                       Human polypeptide SEQ ID NO 24457.
                                                                                                                                                                                     AAO10565 standard; protein; 53 AA
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18-MAY-2000; 2000US-00577409
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VAEF
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Matches
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The invention relates to human polymucleotides (AA179941-AA193841) and the encoded proteins (AA000010-AA013910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polymeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, immunomodulatory activity activity, tissue growth factor activity, immunomodulatory activity and activity, inhibin activity and may be useful in the diagnosis and/or treatment of cancer, leukaemia, nervous system disorders, arthritis and inflammation. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pot_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukemia, inflammation and immune disorders.
                                                                                               Human, cytokine, cell proliferation, cell differentiation, gene therapy, vaccine, peptide therapy, stem cell growth factor, haematopoiesis, tissue growth factor, immunomodulatory, cancer, leukaemia, nervous system disorders, arthritis, inflammation.
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4; Conservative 0; Mismatches
                                                                 Human polypeptide SEQ ID NO 19139.
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18-MAY-2000; 2000US-00577409.
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Best Local Similarity
Matches 4; Conserv
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AAO05247 standard; protein; 53 AA.

RESULT 57
AAO05247
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33 VAEF 36

2 VAEF 5

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29-SEP-2000; 29-SEP-2000; 29-SEP-2000;	29-SEP-2000;	02-OCT-2000;	02-OCT-2000;	02-OCT-2000;	13-OCT-2000;	20-OCT-2000;	20-OCT-2000;	20-0CT-2000;	20-0CI-2000;	20-OCT-2000;	20-0CT-2000;	20-0CT-2000; 01-NOV-2000;	08-NOV-2000;	08-NOV-2000;	08-NOV-2000;	08-NOV-2000;	08-NOV-2000;	08-NOV-2000;	08-NOV-2000;	08-NOV-2000;	08-NOV-2000;	08-NOV-2000;	08-NOV-2000;	08-NOV-2000; 08-NOV-2000;	17-NOV-2000;	17-NOV-2000;	17-NOV-2000;	17-NOV-2000;	17-NOV-2000;	17-NOV-2000;	17-NOV-2000;	01-DEC-2000;	05-DEC-2000;	05-DEC-2000;	45-DEC-2000;	08-DEC-2000;	08-DEC-2000;	08-DEC-2000;	08-DEC-2000;	11-DEC-2000;	17007-NHD-CO	(HUMA-) HUMAN							
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WOZUUIS/182-AZ 09-AUG-2001.	17-JAN-2001;	31-JAN-2000;	04-FEB-2000; 24-FEB-2000;	02-MAR-2000;	16-MAK-2000;	18-APR-2000;	9-MAY-2000;	07-JUN-2000;	30-JUN-2000;	07-JUL-2000;	07-JUL-2000;	11-JUL-2000;	14-JUL-2000;	26-JUL-2000;	26-JUL-2000;	14-AUG-2000;	14-AUG-2000;	14-AUG-2000;	14-AUG-2000;	14-AUG-2000;	14-AUG-2000; 14-AUG-2000;			14-AUG-2000;			23-AUG-2000;	30-AUG-2000;	01-SEP-2000;	01-SEP-2000;	01-SEP-2000;	05-SEP-2000; 05-SEP-2000;	06-SEP-2000;	06-SEP-2000;	08-SEP-2000;	08-SEP-2000;	08-SEP-2000;	08-SEP-2000;	08-SEP-2000;	12-SEP-2000; 14-SEP-2000;	14-SEP-2000;	14-SEP-2000;	14-SEP-2000;	14-SEP-2000;	14-SEP-2000;	14-SEP-2000; 21-SEP-2000;	21-SEP-2000;	25-SEP-Z000; 25-SEP-Z000;	23-3EF-2000;
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AAK54951 to AAX64702 encode the human immune/haematopoietic antigen (I) amno acid sequences given in AAM8210 to AAM91921. (I) have cytostatic activity, and can be used in gene therapy and vaccine production. (I) proteins and polymucleotides may be used in the prevention, diagnosis and treatment of diseases associated with inappropriate (I) expression. For example, they may be used to treat disorders associated with decreased expression by rectifying mutations or deletions in a patient's genome that affect the activity of (I) by expressing inactive proteins or to supplement the patients own production of (I). Additionally, (I) polymucleotides may be used to produce the secreted (I), by inserting the nucleic acids into a host cell and culturing the cell to express the protein. (I) proteins and polymucleotides may be used to prevent, diagnose and treat immune/haematopoietic-related diseases, especially cancers and cancer metastases of haematopoietic-derived cells. AAK64703 concers and cancer metastases of haematopoietic antigen genomic sequences from the present invention. AAK64902 to AAK875950 and AAM82169 represent sequences used in the exemplification of the present invention
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                                                                                                                                                                                            Nucleic acids encoding human immune/hematopoietic antigen polypeptides, useful for preventing, diagnosing and/or treating cancers and metastasis.
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                                                                                                                                                                                                                                                                                                            Claim 11; SEQ ID NO 14983; 3071pp + Sequence Listing; English
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    Ruben SM;
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21-DEC-2001; 2001US-00032376.
21-MAY-2002; 2002US-00153185.
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Best Local Similarity 100.
Barash SC,
                                                                           WPI; 2001-483426/52
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                                                                                                                     N-PSDB; AAK60171
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    Rosen CA,
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The present invention describes an anti-angiogenic composition (I) for inhibiting expression of vascular endothelial growth factor (VEGF). (I) comprises an effective amount of a peptide inhibitor of matter of metalloproceinase (MMP), where the peptide inhibitor the expression of VEGF. (I) has cytostatic, vulnerary, cardiant, cerebroprotective, antidialetic, ophthalmological and dermatological activities. (I) can be used for inhibiting expression of VEGF, and so can be used for inhibiting expression of VEGF, and so can be used for inhibiting growth of tumours and diminishing tumours size. The tumour can be metastatic, non-metastatic, vascularised, non-vascularised, hard or soft. (I) is also useful for treating injuries including wounds, surgical includions, chronic wounds, heart diseases and stroke. (I) is also useful for treating discorders characterised by excessive angiogenesis e.g. macular degeneration and diabetic retinopathy. The present sequence represents a human MMP cleavage region peptide, which is used in the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; peptide inhibitor; matrix metalloproteinase-7; MMP-7; cleavage region; proenzyme form; cellular proliferation; fibroblast; keratinocyte; healthy skin development; wound healing; scarring; skin tone; wrinkle; anti-aging; vulnerary.
                                 Anti-angiogenic composition comprising peptide inhibitor of matrix metalloproteinase, useful for decreasing the expression of vascular endothelial growth factor and treating cancers and tissue injuries.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human matrix metalloproteinase (MMP) peptide inhibitor #4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      95.0%; Score 19; DB 6; Length 56; 100.0%; Pred. No. 7.8e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                               exemplification of the present invention
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                                                                                                                  Claim 17; Page 15; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 1; Page 16; 120pp; English
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21-DEC-2001; 2001US-00032376.
21-MAY-2002; 2002US-00153185.
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WPI; 2003-381408/36.
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Best Local Similarity
Matches 4; Conserv
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ABG76312
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The present sequence represents rat PC12 which is used in an example of the present invention which describes protein components of telomerase. The DNA or RNA encoding the telomerase protein component or its fragments can be used as a nucleotide probe for the detection of cancer cells and for diagnosis of cancer. Potential telomerase inhibitors can be screened by measuring their effect on the assay of the active form in cells or tissues. The polypeptide and DNA coding for it can be used in the elucidation of biological control mechanisms of, e.g. cell growth or ageing and of the mechanisms of cancer development
            The present invention relates to peptide inhibitors of metalloproteinases (MMPs), particularly metalloproteinase-2 (MMP-2). The inhibitors have peptide sequences related to the cleavage regions of the proenzyme forms of the MMPs. The peptide inhibitors are useful for stimulating callular proliferation of fibroblasts or keratinocytes, promoting healthy skin development, treating wounds, preventing scarring, improving skin tone, reducing wrinkling and for simulating the development of smooth, healthy skin. The peptide inhibitors are useful as anti-aging and wound healthy compounds. ABG76309-ABG76321 represent peptide inhibitors of MMPs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Telomerase protein of higher animals and humans and gene encoding it - for use in diagnosis of cancer, screening of telomerase inhibitors and elucidation of biological control mechanisms.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rat; telomerase; human; cancer; screening; inhibitor; elucidation; detection; probe; diagnosis; cell growth; ageing.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAW55888 standard; protein; 58 AA.
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97JP-00018878.
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N-PSDB; AAV25990.
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                     2 VAEF 5
                                                                                                                                                                                                          Sequence 56 AA;
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31-JAN-1997;
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Matches
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DB 2; Length 58;

95.0%; Score 19;

Sequence 58 AA;

Query Match

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The present invention describes substantially purified human proteins

(referred to as open reading frame, ORFX, where X is 1-11491 (see Table 1

(referred to as open reading frame, ORFX, where X is 1-11491 (see Table 1

con the specification). ARM15762 to ABM27252 encode the human ORFX

proteins given in ABP00100 to ABP11500. ORFX proteins are useful for

treating or preventing a pathology associated with an ORFX-associated

disorder in humans, and in the manufacture of a medicament for treating a

syndrome associated with ORFX-associated disorder. ORFX polymucleotide

squences can be used in gene therapy. ORFX sequences can be used in the

creatment of cancer, hyperproliferative disorders, riarhosis of liver,

psoriansis, benign thumurs, keloid, degenerative disorders, haemorrhage,

creatment of cancer, hyperproliferative disorders, calated to organ

transplantation, cardiovascular diseases, diabetes mellitus, systemic

cupus erythematosus, hypertransion, hypothyroidism, cholesterol ester

storage disease, various immune discinances and disorders, infectious

diseases, autoimmune disorders such as multiple sclerosis, rheumatoid

arthritis, autoimmune inflammatory eye disease. ORFX proteins are also

useful for treating burns, incisions, ulcers, for treating osteoporosis,

bone degenerative disorders, or periodontal disease, and for gut

protection or regeneration and treatment of lung or liver fibrosis,

repertusion injury in various tissues and conditions resulting from

systemic cytokine damage. N.B. The sequence data for this patent did not
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                                                                                                                                                                                                                                                                                                                                                                                      Human, open reading frame, ORFX; gene therapy; cancer; cirrhosis; hyperproliferative disorder; psoriasis; benign tumour; haemorrhage; degenerative disorder; osteoarthritis; neurodegenerative disorder; cardiovascular disease, diabetes mellitus; systemic lupus erythematosus; hypertension; hypothyroidism; cholesterol ester storage disease; immune deficiency; immune disorder; infectious disease; autoimmune disorder; rheumatoid arthritis; autoimmune thyroiditis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Novel human polypeptides and polynuclectides useful for diagnosing, preventing and treating cardiovascular disease, neurodegenerative, hyperproliferative disorders and autoimmune disorders.
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    Pred. No. 8.1e+02;
Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                 Human ORFX protein sequence SEQ ID NO:9690.
                                                                                                                                                                                                                        ABP04854 standard; protein; 58 AA.
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      100.08;
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29-AUG-2000; 2000US-0228716P.
                                                                                                                                                                                                                                                                                                             24-JUN-2002 (first entry)
                           Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2002-106308/14.
N-PSDB; ABN20606.
Best Local Similarity
Matches 4; Conserv
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                                                                                                              49 VAEF 52
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                                                                  2 VAEF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               06-DEC-2001.
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990US-0137502P

990US-0138744P

990US-0138840P

990US-01388417P

990US-01388417P

990US-01384518P

990US-0139452P

990US-014085P

990US-014085P

990US-0144332P

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990US-0144333P

990US-0144331P

990US-0144332P

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990US-0144332P

990US-0145088P

990US-0145038P

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990US-0145038P

990US-0145038P

990US-0145038P
04-70N-1999;
08-70N-1999;
10-70N-1999;
14-70N-1999;
16-70N-1999;
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05-AUG-1999;
05-AUG-1999;
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06-JUL-1999;
08-JUL-1999;
                                                                                                                                                                                                                                                                                                                          14-JUL-1999;
15-JUL-1999;
16-JUL-1999;
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                                                                                                                                                                                                            Protein identification, signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter; termination sequence.
form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                            Gaps
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                                         Query Match 95.0%; Score 19; DB 5; Length 58; Best Local Similarity 100.0%; Pred. No. 8.1e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                            Arabidopsis thaliana protein fragment SEQ ID NO: 77787.
                                                                                                                                         AAG60085 standard; protein; 59 AA.
                                                                                                                                                                                                                                                                                                                 9908-0121825P.
9908-0123180P.
9908-012548P.
9908-0126264P.
9908-0126264P.
9908-0128234P.
9908-013081P.
9908-0130845P.
9908-0130845P.
9908-0132484P.
9908-0132484P.
9908-0132486P.
9908-0134286P.
9908-013421P.
9908-013421P.
9908-013421P.
9908-013421P.
9908-013421P.
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                                                                                                                                                                          18-OCT-2000 (first entry)
                                                                                                                                                                                                                                                Arabidopsis thaliana.
                                                                                             30 VAEF 33
                                                                             2 VAEF 5
                           Sequence 58 AA;
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01-JUN-1999;
03-JUN-1999;
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05-MAR-1999;
23-MAR-1999;
25-MAR-1999;
29-MAR-1999;
29-MAR-1999;
06-APR-1999;
06-APR-1999;
16-APR-1999;
23-APR-1999;
23-APR-1999;
30-APR-1999;
30-APR-1999;
30-APR-1999;
44-MAY-1999;
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-MAY-1999;
-MAY-1999;
-MAY-1999;
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AG60085
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Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter; termination sequence.
0; Indels
                                                                                                                                           Arabidopsis thaliana protein fragment SEQ ID NO: 78631.
 Mismatches
                                                                                   AAG60683 standard; protein; 59 AA.
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9905-01231809-
9905-0125488-
9905-0125488-
9905-0126649-
9905-0126649-
9905-01262349-
9905-01282349-
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9905-01384159-
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99US-0138847P.
99US-0139119P.
99US-0139452P.
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                                                                                                                           18-OCT-2000 (first entry)
  4; Conservative
                                                                                                                                                                                                       Arabidopsis thaliana.
                                     45 VAEF 48
                   VAEF 5
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16-APR-1999;
19-APR-1999;
21-APR-1999;
23-APR-1999;
28-APR-1999;
30-APR-1999;
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29-MAR-1999;
01-APR-1999;
06-APR-1999;
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24-MAY-1999;
25-MAY-1999;
27-MAY-1999;
20-JUN-1999;
01-JUN-1999;
03-JUN-1999;
07-JUN-1999;
08-JUN-1999;
10-JUN-1999;
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                                                                                                         AAG60683;
                    N
                                                                  RESULT 64
AAG60683
  Matches
                                                                                      9908-0147303P

9908-0147416P

9908-014735P

9908-01483171P

9908-01483171P

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9908-01483171P

9908-0149363P

9908-0149363P

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9908-0149363P

9908-0149363P

9908-0150868P

9908-0151303P

9908-0151303P

9908-0151303P

9908-0153363P

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9908-0158329P

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9908-0159331P

9908-016988P

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9908-016081P

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9908-0161360P

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99US-0162142P
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28. SEP-11999
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28-AUG-1999)

29-AUG-1999)

20-SEP-1999)

21-AUG-1999)

21-AUG-1999)

21-AUG-1999)
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95.0%; Score 19; DB 3; Length 59; 100.0%; Pred. No. 8.2e+02;

Query Match Best Local Similarity

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R 115-UTN-1999 9918-013455P
R 116-UTN-1999 9918-013456P
R 126-UTN-1999 9918-014468P
R 126-UTN-1999 9918-01449B
R 126-UTN-1999 9918-0
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9908-0148565P. 9908-0148664P. 9908-0144668P. 9908-0144728P. 9908-0144722P. 9908-0144722P. 9908-0149902P. 9908-0149902P. 9908-015066P. 9908-0151066P. 9908-0151066P. 9908-0151303P. 9908-0151303P. 9908-0151303P. 9908-0151303P. 9908-0151303P. 9908-0151303P. 9908-0151303P. 9908-0151303P. 9908-0151303P. 9908-0151313P. 9908-015233P. 9908-015233P. 9908-015233P. 9908-015233P. 9908-015233P. 9908-015533P. 9908-015638P. 9908-015638P. 9908-015638P. 9908-015638P. 9908-015638P. 9908-015638P. 9908-015638P. 9908-015638P. 9908-016638P. 9908-016638P. 9908-016638P. 9908-016638P. 9908-016638P. 9908-016938P. 9908-016938P. 9908-016938P. 9908-016938P. 9908-016938P. 9908-016938P. 9908-016938P. 9908-016938P. 9908-0161404P. 9908-016136P. 9908-016136P.	95.0%; Score 19; DB 3; Length 59; arity 100.0%; Pred. No. 8.2e+02; conservative 0; Mismatches 0; Indels
PR 13-AUG-1999; PR 13-AUG-1999; PR 15-AUG-1999; PR 20-AUG-1999; PR 20-AUG-1999; PR 20-AUG-1999; PR 21-AUG-1999; PR 21-AUG-1999	Query Match Best Local Simil Matches 4;
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0; Gaps

2 VAEF

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gene expression in human placenta.
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                                                                                                             26-MAY-2000; 2000US-0207456P.
30-UTN-2000; 2000US-06608408.
03-AUG-2000; 2000US-00533366.
21-SEP-2000; 2000US-0234687P.
27-SEP-2000; 2000US-023458P.
04-OCT-2000; 2000GB-00024263.
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2000US-00608408.
2000US-00632366.
2000US-0234687P.
2000US-0234587P.
                                                                                                                                                                                                                  (MOLE-) MOLECULAR DYNAMICS INC
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                                                                     30-JAN-2001; 2001WO-US000663
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Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                              Hanzel DK,
                                                                                                                                                                                                                                                                            WPI; 2001-488897/53
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 60 AA;
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               WO200157272-A2
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30-JJN-2000;
03-AUG-2000;
21-SEP-2000;
27-SEP-2000;
04-OCT-2000;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        06-NOV-2001
                                        09-AUG-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to a single exon nucleic acid probe for measuring human gene expression in a sample derived from human foetal liver. The single exon nucleic acid probes may be used for predicting, measuring and displaying gene expression in samples derived from human fetal liver. The present sequence is a peptide encoded by a single exon nucleic acid probe of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human genome-derived single exon nucleic acid probes useful for analyzing gene expression in human fetal liver.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Peptide #9883 encoded by probe for measuring placental gene expression.
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                                                                                                                                          Human; foetal liver; gene expression; single exon nucleic acid probe.
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0
                                                                                                             Peptide #9550 encoded by human foetal liver single exon probe.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 27; SEQ ID NO 34679; 639pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        95.0%; Score 19; DB 4; Length 60; 100.0%; Pred. No. 8.4e+02; ive 0; Mismatches 0; Indels
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26-MX-2000; 2000US-0207456F.
30-UJN-2000; 2000US-00608408
03-AUG-2000; 2000US-0234687P.
21-SEP-2000; 2000US-0234687P.
27-SEP-2000; 2000US-0234687P.
                          ABB42044 standard; peptide; 60
                                                                                                                                                                                                                                                                                                                                                                                                                (MOLE-) MOLECULAR DYNAMICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                            Chen W,
                                                                                                                                                                                                                                                              30-JAN-2001; 2001WO-US000669
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                                                                                    (first entry
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                                                                                                                                                                                                                                                                                                                                                                                                                                              Hanzel DK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2001-483447/52.
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 60 AA;
                                                                                                                                                                                                     WO200157277-A2
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                                                                                   04-FEB-2002
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RESULT 65
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               ABB42044
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Human genome-derived single exon nucleic acid probes useful for analyzing
                                                                                                                                                                                                                                                                                                             The present invention relates to single exon nucleic acid probes (SENP: see AAI31315-AAI57546). The present sequence is a peptide encoded by one such probe. The probes are useful for producing a microarray for predicting, measuring and displaying gene expression in samples derived from human placenta. The probes are useful for antenatal diagnosis of human genetic disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human bone marrow expressed probe encoded protein SEQ ID NO: 36043.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 60;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95.0%; Score 19; DB 4; Lt
100.0%; Pred. No. 8.4e+02;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                           Claim 27; SEQ ID NO 36115; 654pp; English.
Rank DR;
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Chen W, Rank DR,

Hanzel DK,

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The present invention provides a number of single exon nucleic acid probes which are derived from genomic sequences expressed in the human bone marrow. They can be used to measure gene expression in bone marrow samples, which may enable the improved diagnosis and treatment of cancers such as lymphoma, leukaemia and myeloma. The present sequence is a protein encoded by one of the probes of the invention
                                                                                   Human genome-derived single exon nucleic acid probes useful for analyzing gene expression in human bone marrow.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The present invention provides a number of single exon nucleic acid probes which are derived from genomic sequences expressed in the human brain. They can be used to measure gene expression in brain cell samples, which may enable the diagnosis and improved treatment of nervous system
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human; brain expressed exon; gene expression analysis; probe; microarray; Alzheimer's disease; multiple sclerosis; schizophrenia; epilepsy; cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human brain expressed single exon probe encoded protein SEQ ID NO: 35030
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Single exon nucleic acid probes for analyzing gene expression in human
                                                                                                                                 Example 4; SEQ ID NO 36043; 658pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 4; SEQ ID NO 35030; 650pp + Sequence Listing; English.
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(MOLE-) MOLECULAR DYNAMICS INC
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                                                                                                                                                                                                                                                                                                                                   4; Conservative
                                                           WPI; 2001-488900/53
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                                                                                                                                                                                                                                                                                                                 Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                             8 VAEF 11
                                                                                                                                                                                                                                                                                                                                                              2 VAEF 5
                                                                                                                                                                                                                                                                        Sequence 60 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200157275-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          04-FEB-2000; 2
26-MAY-2000; 2
30-UM-2000; 2
31-MB-2000; 2
21-SEP-2000; 2
27-SEP-2000; 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                05-NOV-2001
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAM62925
                                                                                                                                                                                                                                                                                                      Query Match
                            Penn SG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           brains.
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Matches
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Rank DR;

Chen W,

DK,

Hanzel

2000US-0180312P. 2000US-0207456P. 2000US-00608408. 2000US-0234687P. 2000US-0234687P. 2000US-0234687P.

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diseases such as Alzheimer's disease, multiple sclerosis, schizophrenia, epilepsy and cancers. The present sequence is a protein encoded by one of the probes of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human genome-derived single exon nucleic acid probes useful for analyzing gene expression in human adult liver.
                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                      Human; liver; cirrhosis; hyperlipoproteinaemia; hyperlipidaemia; hypercholesterolaemia; coronary heart disease.
                                                                                                                                       ö
                                                                                                    DB 4; Length 60;
8.4e+02;
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                                                                                                                                    0; Indels
                                                                                                      Query Match
95.0%; Score 19; DB
Best Local Similarity 100.0%; Pred. No. 8.4
Matches 4; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 27; SEQ ID NO 36123; 658pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DR;
                                                                                                                                                                                                                                                                                                                                                                                           Human liver peptide, SEQ ID No 36123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rank
                                                                                                                                                                                                                                                                                          ABG57475 standard; peptide; 60 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chen W,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20-UTN-2000; 2000US-00608408.
21-SEP-2000; 2000US-00632566.
21-SEP-2000; 2000US-0234687P.
27-SEP-2000; 2000US-02353595.
04-OCT-2000; 2000GB-00024263.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30-JAN-2001; 2001WO-US000664
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                                                                                                                                                                                                                                                                                                                                                           (first entry)
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                                                                                                                                                                                                     8 VAEF 11
                                                                                                                                                                         2 VAEF 5
                                                                        Sequence 60 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             04-PEB-2000;
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                                                                                                                                                                                                                                                         RESULT
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Gaps 0

DB 4; Length 60; 8.4e+02; hes 0; Indels

0; Mismatches

95.0%; Score 19; 100.0%; Pred. No.

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                                                                                                                                                        ORF polypeptide, dermatomyositis, polymyositis, inclusion body myositis, sarcoid myopathy, AZT myopathy, myocardial infarction; ischaemia, ERK-6; extracellular signal-regulated kinase, reperfusion.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human; immune; haematopoietic; immune/haematopoietic antigen; cancer; cytostatic; gene therapy; vaccine; metastasis.
           0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Gaps
Best Local Similarity 100.0%; Pred. No. 8.4e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                           95.0%; Score 19; DB 2; Length 62; 100.0%; Pred. No. 8.7e+02; Ative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human immune/haematopoietic antigen SEQ ID NO:18840.
                                                                                                                                                                                                                                                                                                                                      Nucleic acid encoding ORF polypeptide.
                                                                                     AAY17262 standard; peptide; 62 AA.
                                                                                                                                       HLH domain of drosophila E-spl m5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAM91247 standard; protein; 62 AA.
                                                                                                                                                                                                                                                                                                                                                      Disclosure; Fig 2; 79pp; English.
                                                                                                                                                                                                                                               98WO-US025046
                                                                                                                                                                                                                                                               97US-0066848P
                                                                                                                      09-AUG-1999 (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                           Drosophila melanogaster.
                                                                                                                                                                                                                                                                                                                   WPI; 1999-357837/30.
                                                                                                                                                                                                                                                                                                  Ullrich A, Giot J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                                                                                               (SUGE-) SUGEN INC.
                                         8 VAEF 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                29 VAEF 32
                          2 VAEF 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 VAEF 5
                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 62 AA;
                                                                                                                                                                                                                                                                25-NOV-1997;
                                                                                                                                                                                                             WO9927099-A1.
                                                                                                                                                                                                                                               23-NOV-1998;
                                                                                                                                                                                                                              03-JUN-1999.
                                                                                                      AAY17262;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 71
                                                                             AAY17262
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OS HOMO sapiens.

XX WOZOO157182-A2.

XX WOZOO157182-A2.

XX WOZOO157182-A2.

XX 99-AUG-2001.

XX 17-JAN-2000; 2000US-0190652P.

YEBR-2000; 2000US-0196628P.

YEBR-2000; 2000US-0196354P.

YEBR-2000; 2000US-0196354P.

YEBR-2000; 2000US-0196354P.

YEBR-2000; 2000US-020964P.

YEBR-2000; 2000US-020969P.

YEBR-2000
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26-SEP-2000, 2000US-0235484P.
27-SEP-2000, 2000US-0235834P.
29-SEP-2000, 2000US-0235834P.
29-SEP-2000, 2000US-0235837P.
29-SEP-2000, 2000US-0235837P.
29-SEP-2000, 2000US-023587P.
29-SEP-2000, 2000US-023637P.
20-CTT-2000, 2000US-0234037P.
20-CTT-2000, 2000US-0234037P.
20-CTT-2000, 2000US-0234037P.
20-CTT-2000, 2000US-0234037P.
20-CTT-2000, 2000US-0234037P.
20-CTT-2000, 2000US-0234037P.
20-CTT-2000, 2000US-0234178P.
20-CTT-2000, 2000US-0234178P.
20-CTT-2000, 2000US-023403P.
20-CTT-2000, 2000US-0234182P.
20-CTT-2000, 2000US-0234182P.
20-CTT-2000, 2000US-0234182P.
20-CTT-2000, 2000US-024611P.
20-CTT-2000, 2000US-024611P.
20-CTT-2000, 2000US-024611P.
20-CTT-2000, 2000US-024611P.
20-CTT-2000, 2000US-024611P.
20-CTT-2000, 2000US-024621P.
20-CTT-2000, 2000US-024821P.
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AAK54951 to AAK64702 encode the human immune/haematopoietic antigen (I) amino acid sequences given in AAM82170 to AAM91921. (I) have cytostatic activity, and can be used in gene therapy and vaccine production. (I) proteins and polynucleotides may be used in the prevention, diagnosis and treatment of diseases associated with inappropriate (I) expression. For example, they may be used to treat disorders associated with decreased expression by rectifying mutations or deletions in a patient's genome that affect the activity of (I) by expressing inactive proteins or to supplement the patients own production of (I). Additionally, (I) polynucleotides may be used to produce the secreted (I). by inserting the polynucleotides may be used to produce the secreted (I). by inserting the rucleic acids into a host cell and culturing the cell to express the protein. (I) proteins and polynucleotides may be used to provent, diagnose and treat immune/haematopoietic-related diseases, especially cancers and cancer metastases of haematopoietic-derived cells. AAK64703 cancers and cancer human immune/haematopoietic articen genomic sequences from the present invention. AAX64902 to AAX85450 and AAM82169 represent invention
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New Propionibacterium acnes polypeptides and polynucleotides encoding the
                                                                                                                           Nucleic acids encoding human immune/hematopoietic antigen polypeptides, useful for preventing, diagnosing and/or treating cancers and metastasis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Maisonneuve JL;
Jones R, Carter D;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Acne vulgaris; antiseborrhoeic; dermatological; antibacterial; immunostimulant; immune response; vaccine; immunogenic.
                                                                                                                                                                                   Claim 11; SEQ ID NO 18840; 3071pp + Sequence Listing; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                95.0%; Score 19; DB 4; Length 62;
100.0%; Pred. No. 8.7e+02;
ative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Propionibacterium acnes immunogenic polypeptide #30343.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mitcham Ji, Skeiky YAW, Persing DH, Bhatia A,
Zhang Y, Wang S, Jen S, Lodes MJ, Benson DR,
Barth B, Vallieve-Douglass J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABM65667 standard; protein; 62 AA.
                                     Ruben SM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11-OCT-2002; 2002WO-US032727.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15-OCT-2001; 2001US-00978825.
(HUMA-) HUMAN GENOME SCI INC.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Propionibacterium acnes.
                                     Rosen CA, Barash SC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (CORI-) CORIXA CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2003-381789/36.
                                                                     WPI; 2001-483426/52.
N-PSDB; AAK64028.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 62 AA;
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ABM65667
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The invention relates to an isolated polymuclectide (ACF64435-ACF64733) encoding a Propionibacterium acnes protein. The invention also relates to polypeptides encoded by the polymuclectides (ARM3562-ABM64356) and to immunogenic fragments of P. acnes polypeptides. The invention antibodies against polymuclectide of the invention; antibodies against polypeptides of the invention; animume response specific for a P. acnes polypeptide of the invention; a method for stimulating an immune response specific for a P. acnes polypeptide and an isolated T cell population comprising T cells prepared via this method; a vaccine composition (comprising T cells prepared via this method; a vaccine composition (comprising P. acnes polypeptides, polymuclectides, antibodies, fusion proteins, T cell populations or antigen-presenting or determining the presence or absence of P. acnes in a patient; and a method for inhibiting the development of P. acnes in a patient; and a method for inhibiting the development of P. acnes in a proteins, T cell populations or antigen-presenting or treating and proteins. T cell populations or antigen-presenting or treating acnes polypeptides, polymuclectides, polymuclectides, antibodies, fusion protein. The polymuclectides can also be used as probes or primers for nucleic acid hybridisation. The vaccine composition is useful for the vaccine composition is useful for the vaccine composition is useful for the primed per acnes polypeptide which is sequence represents a specifically claimed P. acnes polypeptide which is thought to contain an immune response against P. acnes polypeptide which is battent did not form part of the primed specification, but was the contain an immune directly from WIPO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human, cytokine, cell proliferation, cell differentiation, gene therapy, vaccine, peptide therapy, stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation.
polypeptide, useful for diagnosing, preventing or treating acne vulgaris, or for stimulating an immune response specific for a P. acnes protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95.0%; Score 19; DB 6; Le
100.0%; Pred. No. 8.7e+02;
tive 0; Mismatches 0;
                                                              Claim 7; SEQ ID NO 30343; 1481pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human polypeptide SEQ ID NO 23409.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AA009517 standard; protein; 64 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tang YT, Liu C, Drmanac RT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26-FEB-2001; 2001WO-US004927
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18-MAY-2000; 2000US-00577409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           06-NOV-2001 (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
4; Conserve
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8 VAEF 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 VAEF 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 62 AA;
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The invention relates to human polymucleotides (AA179941-AA193841) and the encoded proteins (AA000010-AA013910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polymedides are useful in gene therapy, vaccines or peptide therapy. The polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, immunomodulatory activity and activity, tissue growth factor activity, immunomodulatory activity and activity, infinibin activity and may be useful in the diagnosis and/or treatment of cancer, leukaemia, nervous system disorders, arthritis and inflammation. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pot_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                            Isolated nucleic acids and polypeptides, useful fór preventing diagnosing and treating e.g. leukemia, inflammation and immune disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New nucleic acid expressed at high level in normal prostatic tissue and encoded polypeptides, used to treat cancer and screen for therapeutic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Expressed sequence tag; EST; prostate; tumor; treatment; gene therapy; cancer; tissue specificity; human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rosenthal A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  This invention describes novel nucleic acid sequences (A) that are expressed at high level in normal prostatic tissue. Polypeptides (I) encoded by (A) are used: (a) for identifying agents for treatment of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                 Claim 20; SEQ ID NO 23409; 1399pp + Sequence Listing; English
                                                                                                                                                                                                                                                                                                                                                                                                                                         95.0%; Score 19; DB 4; Length 64; 100.0%; Pred. No. 9e+02; ive 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Schmitt A, Pilarsky C,
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               WPI; 2001-514838/56.
N-PSDB; AAI89448.
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Length 62; 0; Indels

prostatic cancer and (b) for therapy of prostate cancer, optionally where expressed by gene therapy methods. (A) is also used to isolate fulllength genes (for gene therapy) and for recombinant production of (I), which can be used to raise specific antibodies. (A) are identified by assembly of ESTS (expressed sequence tags) before these are analyzed for expression pattern (tissue specificity). This approach eliminates many of the false results, as regards tissue specificity, associated with Known methods that use single (usually short) ESTS. AAY48304-Y48456 represent peptides encoded by the expressed sequence tags described in the method of the invention

Sequence 67 AA;

95.0%; Score 19; DB 2; Length 67; 100.0%; Pred. No. 9.4e+02; ive 0; Mismatches 0; Indels Query Match Best Local Similarity 100. Matches 4; Conservative 2 VAEF 5

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23 18 VAEF

ABP31047 standard; protein; 68 AA. ESULT 75

ABP31047;

(first entry) 08-JUL-2002 Human ORF20 protein, SEQ ID NO:40.

Human; ORF; open reading frame; ORFX; drug screening; diagnosis; disease monitoring; cytokine; cell proliferation; cell differentiation; immune modulation; hematopoiesis regulation; tissue growth; angiogenesis; activin; inhibin; chemctactic; chemokinetic; haemostatic; thrombolytic; tumour inhibin; chemctactic; chemokinetic; haemostatic; thrombolytic; tumour inhibin; bodily characteristic; fertility; behaviour; cancer; proliferative disorder; neurological disorder; cardiovascular disease; immune system disorder; organ transplantation; tissue growth disorder; tissue regeneration disorder; diabetes mellitus; hypothyroidism; cholesterol ester storage disease; infection; vulnerary; vasotropic; antipsoriatic; antidabetic; cytostatic; noorropic; cardiant; hypotensive; antichyroid; antiloflammatory; immunomodulator; dermatological; analgesic; virucide; antibacterial; fungicide.

Homo sapiens.

WO200190366-A2.

29-NOV-2001.

24-MAY-2001; 2001WO-US017076

24-MAY-2000; 2000US-0206690P.

(CURA-) CURAGEN CORP.

Leach MD, Shimkets RA; WPI; 2002-106200/14. N-PSDB; ABN75073. Novel human polypeptides and polynucleotides useful for diagnosing, preventing and treating cardiovascular disease, neurodegenerative, hyperproliferative disorders and disorders related to organ transplantation.

Claim 10; Page 280; 2508pp; English.

Sequences ABP31028-ABP35561 represent 4534 novel human proteins designated ORF (open reading frame) 1-4534, and sequences ABN75054-ABN79587 represent cDNAs encoding them. The invention also encompasses

polypeptides at least 80% identical to the ORFI-ORF4534 (collectively conference to as ORFX) proteins, polynucleotides at least 85% identical to the ORFX molecular compilating ORFX proteins, antibodies of polynucleotides, the recombinant production of ORFX proteins, antibodies of polypeptides, methods of screening for modulators of ORFX proteins, antibodies of polypeptides, methods of screening for modulators of ORFX proteins or activity, and methods of screening individuals for a predisposition or activity, and methods of screening for modulators of ORFX expression or activity, and methods of screening individuals for a predisposition for cange of biological activities, such as cytokine, cell proliferation, cell differentiation immune modulation, hasmatopolesis regulation, cell differentiation immune modulation, hasmatopolesis regulation, cell differentiation antiinflammatory activity, tumour inhibition activity, receptor/ligand, antiinflammatory activity, tumour inhibition activity, and antibodies may also be used in the treatment of cancers, other proliferative disorders such as sporiasis and benign tumours, other proliferative disorders such as sporiasis and benign tumours, corgan transplantation, disorders of tissue growth and regeneration, disorders of tissue growth and regeneration, disorders of tissue growth and regeneration, corgan transplantation, disorders of tissue growth and regeneration, corgan pathogens. ORFX mucleic acids may also be used as a source of primers and probes, in the detection of ORFX genomic sequences or transcripts, in the identification and cloning of homologous cortions and indentification and cloning of homologous cortions and indentification and content of penetral profession and inferience and method of ORFX proteins and in forester and inferences of immunogens to immunogens to generate specific antibodies, which are useful in diagnosis, treatment and monitoring of ORFX-associated diseases 

Sequence 68 AA;

ö Gaps ö 95.0%; Score 19; DB 5; Length 68; 100.0%; Pred. No. 9.6e+02; ive 0; Mismatches 0; Indels Query Match Best Local Similarity 100. Matches 4; Conservative

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Gispecies: Helicobacter pylori
Cjaccession: G64625
RiTomb, J.F.; White, O.; Kerlavage, A.R.; Clayton, R.A.; Sutton, G.G.; Fleischmann, R.D.
Peterson, S. i. Loftus, B.; Richardson, D.; Dodson, R.; Khalak, H.G.; Glodek, A.; McKenne
son, J.D.; Kalley, J.M.; Cotton, M.D.; Weidman, J.M.; Fujii, C.; Bowman, C.; Watthey, L.
Nature 388, 539-547, 1997
A.;Authors Wallin, E.; Hayes, W.S.; Borodovsky, M.; Karpk, P.D.; Smith, H.O.; Fraser, C.
A.;Authors wallin, E.; Hayes, W.S.; Borodovsky, M.; Karpk, P.D.; Smith, H.O.; Fraser, C.
A.;Atther complete genome sequence of the gastric pathogen Helicobacter pylori.
                                                                                                                                                                                                                                                                                                                                                                                                                                        cytotoxin-binding protein - rabbit (c)species: Oryctolagus cuniculus (domestic rabbit)
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 18-Feb-1994 #sequence_revision 19-Apr-1996 #text_change 16-Feb-1997
C;Accession: 839049
R;Lutz, F:, Mohr, M.; Grimmig, M.; Leidolf, R.; Linder, D.
Riutz, F:, Mohr, M.; Grimmig, M.; Leidolf, R.; Linder, D.
Riutz, F:, Mohr, M.; Grimmig, M.; Leidolf, R.; Linder, D.
R;Lutz, F:, Mohr, M.; Grimmig, M.; Leidolf, R.; Linder, D.
R;Litle: Pseudomonas aeruginosa cytotoxin-binding protein in rabbit erythrocyte membrane A;Reference number: 839049; MUID:94039134; PMID:7693466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A.Status: preliminary; nucleic acid sequence not shown; translation not shown
A.Molecule type: DNA
A.Residues: 1-33 <TOM>
A.Cross-references: GB:AE000596; GB:AE000511; NID:g2313982; PIDN:AAD07920.1; PID:g231400
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A;Molecule type: procein
A;Residues: 1.20 <1UT>
C;Superfamily: lens fiber membrane major intrinsic protein
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88;
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TVHUMB
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H82367
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S52990
G84787
AIO147
A91038
AF0808
A87516
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A69312
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hypothetical protein HP0789 - Helicobacter pylori (strain 26695)
C;Species: Helicobacter pylori
C;Date: 09-Aug-1997 #sequence_revision 09-Aug-1997 #text_change 08-Oct-1999
R;Tomb, J.F., White, O.; Kerlavage, A.R.; Clayton, R.A.; Sutton, G.G.; Fleischmann, R.D.
R;Tomb, J.F., Ioftus, B.; Richardson, D.; Dodson, R.; Khalak, H.G.; Glodek, A.; McKenne son, J.D.; Kelley, J.M.; Cotton, M.D.; Weidman, J.M.; Karpk, P.D.; Smith, H.O.; Fraser, C.A; A;Reference number: A64520; MUID:97394467; PMID:9252185
A;Accession: E64618
A;Accession: E64618
A;Accession: preliminary; nucleic acid sequence not shown; translation not shown
A;Residues: 1-48 <TOMA
A;Residues: 1-48 <TOMA
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R)Perna, N.T.; Plunkett III, G; Burland, V.; Mau, B.; Glasner, J.D.; Rose, D.J.; Mayhew iller, L.; Grotbeck, E.J.; Davis, N.W.; Lim, A.; Dimalanta, E.; Potamousis, K.; Apodaca, Nature 409, 529-533, 2001
A,Tritle: Genome sequence of enterohemorrhagic Escherichia coli Ol57:H7.
A,Reference number: A85480; MUID:21074935; PMID:11206551
A,Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Cross-references: GB:AE000591; GB:AE000511; NID:92313918; PIDN:AAD07847.1; PID:9231392
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C;Species: Bacillus brevis
C;Species: Bacillus brevis
C;Date: 10-Jul-1992 #sequence_revision 10-Jul-1992 #text_change 15-Oct-1999
C;Accession: A42375; 139873
R;Ito, K; Udaka, S.; Yamagata, H.
J. Bacteriol. 174, 2281-2287, 1992
A;Title: Cloning, characterization, and inactivation of the Bacillus brevis lon gene.
A;Reference number: A42375; MUD:92202157; PMID:1551846
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Best Local Similarity 100.0%; Pred. No. 1.3e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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100.0%; Pred. No. 1.4e+02;
iive 0; Mismatches 0;
   0; Mismatches
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      4; Conservative
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A; Residues: 1-52 <ITO>
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E64618
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A; Molecule type: DNA
A; Residues: 1-63 <ARI>
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12 VAEF 15
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G64007
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;Klenk, H.P.; Clayton, R.A.; Tomb, J.F.; White, O.; Nelson, K.E.; Ketchum, K.A.; Dodson; Fleischmann, R.D.; Quackenbush, J.; Lee, N.H.; Sutton, G.G.; Gill, S.; Kirkness, E.F.; Glodek, A.; Zhou, L.; Overbeek, R.; Gocayne, J.D.; Weidman, J.F.; McDonald, L. ature 390, 364-370, 1997
;Authors: Utterback, T.; Cotton, M.D.; Spriggs, T.; Artiach, P.; Kaine, B.P.; Sykes, S. mith, H.O.; Woese, C.K.; Venter, J.C.
;Tile: The complete genome sequence of the hyperthermophilic, sulfate-reducing archaed; Reference number: A69250; MUID:98049343; PMID:9389475
;Accession: A69386
;Status: preliminary; nucleic acid sequence not shown; translation not shown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         robable preprotein translocase subunit (secE) - syphilis spirochete
;Species: Treponema pallidum subsp. pallidum (syphilis spirochete)
;Date: 24-Uul-1998 #sequence_revision 24-Uul-1998 #text_change 05-Nov-1999
;Accession: E71349
son, U.; Norris, S.U.; Weinstock, G.M.; White, O.; Sutton, G.G.; Dodson, R.; Gwin son, U.; Walak, H.; Richardson, D.; Howell, J.K.; Chidambaram, M.; Utterback, T.; McDdhey, L.; Weidamn, U.; Smith, H.O.; Venter, J.C.
cience 281, 375-388, 1998
;Title: Complete genome sequence of Treponema pallidum, the syphilis spirochete.
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Experimental source: strain Nichols
                                                           .Cross-references: GB:AE005174, NID:g12515374, PIDN:AAG56425.1, GSPDB:GN00145, UWGP:Z23
Experimentàl source: strain 0157.H7, substrain EDL933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cross-references: GB:AE001028, GB:AE000782, NID:g2689351, PIDN:AAB90157.1, PID:g264950 Superfamily: Methanococcus jannaschii hypothetical protein MJ0975
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Residues: 1-59 <COL>
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Residues: 1-59 <KLE>
      Molecule type: DNA
Residues: 1-54 <STO>
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Uservice the protein HI0451 - Haemophilus influenzae (strain Rd KW20)
C;Species: Heemophilus influenzae
C;Species: Heemophilus influenzae
C;Species: 18-Aug-1995 #sequence_revision 18-Aug-1995 #text_change 08-Oct-1999
C;Accession: G64007
C;Accessi
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C;Species: Salmo salar (Atlantic salmon)
C;Species: Salmo salar (Atlantic salmon)
C;Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 21-Jul-2000
C;Accession: 151350
B;Kvingedal, A.M.
Gene 150, 335-339, 1994
A;Title: Characterization of the 5' region of the Atlantic salmon (Salmo salar) transfer:
A;Reference number: 151350, MUID:95121925; FMID:7821802
A;Recession: 151350
A;Status: preliminary; translated from GB/EMBL/DDBJ
carbomycin resistance protein carA - Streptomyces sp. (fragment)
C;Species: Streptomyces sp.
C;Date: 13-Jun-1995 #sequence_revision 14-Jul-1995 #text_change 20-Sep-1999
C;Accession: J74002
R;Arisawa, A.; Tsunekawa, H.; Okamura, K.; Okamoto, R.
Biosci. Biotechnol. Biochem. 59, 582-588, 1995
A;Title: Nucleotide sequence analysis of the carbomycin biosynthetic genes including the A;Reference number: J74001; MUID:95290751; PMID:7772821
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Cross-references: DDBJ:D30759; NID:9551628; PIDN:BAA06419.1; PID:d1006989; PID:9551629
A;Note: the source was designated as Streptomyces thermotolerans
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C;Superfamily: unassigned ATP-binding cassette proteins; ATP-binding cassette homology
C;Keywords: ATP
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hypothetical protein BH2182 [imported] - Bacillus halodurans (strain C-125)
C;ppecies: Bacillus halodurans
C;pate: 01-Dec-2000 #sequence_revision 01-Dec-2000 #text_change 15-Jun-2001
C;Accession: F89322
Nyrakami, H.; Nakasone, K.; Takaki, Y.; Maeno, G.; Sasaki, R.; Masui, N.; Fuji, F.; Hira Nucleic Acids Res. 28, 4317-4331, 2000
A;Title: Complete genome sequence of the alkaliphilic bacterium Bacillus halodurans and A;Reference number: A83650; MUID:20512582; PMID:11058132
A;Accession: F89322
A;Accession: F89922
A;Accession by A;Accession Bacillus halodurans A;Molecule type: DNA
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C;Species: Chlorella virus PBCV-1
C;Species: Chorella virus PBCV-1
C;Accession: T18034
R;Graves, M.V.; Van Etten, J.L.
submitted to the EMBL Data Library, May 1999
A;Reference number: Z18806
A;Reference number: Z18806
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C;Species: Caenorhabditis elegans
C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
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A;Experimental source: specific host Chlorella strain NC64A
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100.0%; Pred. No. 2.2e+02;
tive 0; Mismatches 0; Indels
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submitted to the EMBL Data Library, November 1995
A;Description: The sequence of C. elegans cosmid 2C477.
A;Reference number: Z20392
A;Accession: T27605
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A;Molecule type: DNA
A;Residues: 1-79 <DUZ>
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A;Molecule type: DNA
A;Residues: 1-79 <GRA>
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Best Local Similarity 100..
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A;Gene: CESP:ZC477.6
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2 VAEF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     hypotherical protein CAC1179 [imported] - Clostridium acetobutylicum
C,Species: Clostridium acetobutylicum
C,Species: 14-Sep-2001 #sequence_revision 14-Sep-2001 #text_change 14-Sep-2001
C,Accession: D97045
R,Nolling, J. Breton, G.; Omelchenko, M.V.; Markarova, K.S.; Zeng, Q.; Gibson, R.; Lee,
J, Daly, M.J.; Bennett, G.N.; Koonin, E.V.; Smith, D.R.
J. Bacteriol. 183, 4823-4838, 2001
A,Title: Genome Sequence and Comparative Analysis of the Solvent-Producing Bacterium Clc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Species: phage 186 | Species: phage 186 | Species: phage 17-Mar-1999 | Species: 28-May-1993 | Species: 18-May-1993 | Species: 18-May-19
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Residuae: 1-75 «KAL» – KAL»

(Cross-references: EMBL:X04449; NID:g15549; PID:g15550

(Dibbens, J.A.; Gregory, S.L.; Egan, J.B.

Al: Microbiol. 6, 2643-2650, 1992

Archile: Control of gene expression in the temperate coliphage 186. X. The cl repressor

(Reference number: S25273; MUID:93078618; PMID:1447973
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A;Cross-references: GB:AE001437; PIDN:AAK79151.1; PID:g15024100; GSPDB:GN00168
A;Experimental source: Clostridium acetobutylicum ATCC824
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A;Molecule type: DNA
A;Residues: 1.-64 «KVI»
A;Cross-references: GB:L26909; NID:g598395; PIDN:AAC42221.1; PID:g598396
C;Genetics:
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                                                                                                                                                                                                                                                                                                     Query Match 95.0%; Score 19; DB 2; Length 64; Best Local Similarity 100.0%; Pred. No. 1.8e+02; Matches 4; Conservative 0; Mismatches 0; Indels
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100.0%; Pred. No. 2e+02;
rative 0; Mismatches 0; Indels
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A, Molacule type: DNA
A, Residues: 1-75 < DIB>
A, Cross-references: EMBL:X04449; NID:g15549; PID:g15550
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C; Superfamily: transferrin; transferrin repeat homology
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Best Local Similarity 100.
Matches 4; Conservative
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A,Gene: CAC1179
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hypothetical protein ypjB [imported] - Lactococcus lactis subsp. lactis (strain IL1403) C; Species: Lactococcus lactis subsp. lactis C, Species: Lactococcus lactis subsp. lactis C, Date: 23-Mar-2001 #sequence_revision 23-Mar-2001 #text_change 03-Aug-2001 C; Accession: F66818 R; Bolotin, A.; Wincker, P.; Mauger, S.; Jaillon, O.; Malarme, K.; Weissenbach, J.; Ehrlic G, Accession: Res. 11, 731-753, 2001 A; Municker, B.; Jaillon, O.; Malarme, J.; Weissenbach, J.; Ehrlic A; Mille: The complete genome sequence of the lactic acid bacterium Lactococcus lactis SSF A; Accession: F66818
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C;Species: Yersinia pestis
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 20-Sep-1999
C;Accession: T15018
R;Lindler, L.E.; Plano, G.V.; Burland, V.; Mayhew, G.F.; Blattner, F.R.
Infect. Immun. 66, 5731-5742, 1998
A;Title: Complete DNA sequence and detailed analysis of the Yersinia pestis KIMS plasmid
A;Reference number: Z18268; MUID:99043898; PMID:9826348
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A;Molecule type: DNA
A;Residues: 1.89 <LIN>
A;Cross-references: EMBL:AF074611; NID:g3883003; FID:g3883101; PIDN:AAC82761.1
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100.0%; Pred. No. 2.5e+02; tive 0; Mismatches 0;
                                                            4; Conservative
Best Local Similarity
Matches 4; Conserv
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A;Molecule type: DNA
A;Residues: 1-89 <STO>
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Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
Date: 20-Sep-1991 #sequence_revision 20-Sep-1991 #text_change 05-Dec-1997
Date: 20-Sep-1991 #sequence_revision 20-Sep-1991 #text_change 05-Dec-1997
Tu, G.F.; Achen, M.G.; Aldred, A.R.; Southwell, B.R.; Schreiber, G.
Biol. Chem. 266, 6201-6208, 1991
Title: The distribution of cerebral expression of the transferrin gene is species speciate or number: A38725; MUID:91177867; PMID:1848850
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                                                .Cross-references: GB:AP001514; GB:BA000004; NID:g10174613; PIDN:BAB05901.1; GSPDB:GN0d
Experimental source: strain C-125
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100.0%; Pred. No. 2.4e+02;
tive 0; Mismatches 0;
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Best Local Similarity 100.
Matches 4; Conservative
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Best Local Similarity 100.
Matches 4; Conservative
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Residues: 1-89 <TIG1>
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Residues: 1-87 <TUA>
      Residues: 1-84 <STO>
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Rishe, Q.; Singh, R.K.; Confalonieri, F.; Zivanovic, Y.; Allard, G.; Awayez, M.J.; Chandong, I.; Jeffries, A.C.; Kozera, C.J.; Medina, N.; Peng, X.; Thi-Ngoc, H.P.; Redder, P arrett, R.A.; Ragan, M.A.; Sensen, C.W.; Van der Oost, J. Submitted to GenBank, April 2001
submitted to GenBank, April 2001
A; Poscription: Sulfolobus solfataricus complete genome.
A; Reference number: A99139
A; Accession: H90297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C'Species: Methanococcus maripaludis
C'Jate: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 21-Jul-2000
C'Accession: T10097
R'Kessler, P.S.; McLarnan, J.; Leigh, J.A.
R'Messler, P.S.; McLarnan, J.; Leigh, J.A.
A'Fitle: Nitrogenae phylogeny and the molybdenum dependence of nitrogen fixation in Met
A'Fitle: Nitrogenae phylogeny and the molybdenum dependence of nitrogen fixation in Met
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-101 <KUR>
A;Cross references: GB:AE006641; NID:g13814625; PIDN:AAK41639.1; GSPDB:GN00155
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Residues: 1-106 - KES>
A;Cross-references: EMBL:U75887; NID:g1666882; PIDN:AAC45519.1; PID:g1666890
A;Experimental source: strain JJ
                                                                                                                                                                                                                                                                                                                                                                         conserved hypothetical protein [imported] - Sulfolobus solfataricus Cipecies: Sulfolobus solfataricus CiDate: 24-May-2001 #sequence_revision 24-May-2001 #text_change 24-May-2001 C;Accession: #90297
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100.0%; Pred. No. 2.8e+02;
tive 0; Mismatches 0; Indels
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                                                                                                  Length 99;
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C64490
hypothetical protein MJ1524 - Methanococcus jannaschii
                                                                                                  95.0%; Score 19; DB 2; L4
100.0%; Pred. No. 2.8e+02;
iive 0; Mismatches 0;
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Pred. No. 3e+02;
0; Mismatches (
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A,Status: translated from GB/EMBL/DDBJ
A,Molecule type: DNA
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Best Local Similarity 100.0%; Pr
Matches 4; Conservative 0;
A;Experimental source: strain PAO1
C;Genetics:
A;Gene: PA3202
                                                                                                  Query Match
Best Local Similarity 100.
Matches 4; Conservative
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Best Local Similarity
Matches 4; Conserv
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C;Species: Pseudomonas aeruginosa
C;Species: Dseudomonas aeruginosa
C;Species: Dseudomonas aeruginosa
C;Species: Dseudomonas aeruginosa
C;Accession: B83344
R;Stover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hickey, M.J.; Br
R;Stover, C.K.; Pham, X.Q.; Erwin, A.L.; Mizoguchi, S.D.; Warrener, P.; Hickey, M.J.; Br
R;Stover, C.K.; Pham, X.Q.; Erwin, A.L.; Coulter, S.N.; Folger, K.R.; Kas, A.; Larbig, K.; Lim,
J. Lory, S.; Olson, M.V.
Nature 406, 959-964, 2000
A;Title: Complete genome sequence of Pseudomonas aeruginosa PA01, an opportunistic pathor A;Reference number: A82950; MUID:20437337; PMID:10984043
A;Accession: B83344
A;Molecule type: DNA
A;Residues: 1-99 <STO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Cross-references: GB:AE004744; GB:AE004091; NID:g9949317; PIDN:AAG06590.1; GSPDB:GN001
Science 294, 2317-2323, 2001
A;Authors: Yoo, H.; Tao, Y.; Biddle, P.; Jung, M.; Krespan, W.; Perry, M.; Gordon-Kamm,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           conserved hypothetical protein lmo2579 [imported] - Listeria monocytogenes (strain EGD-
                                          Ster, E.W.

A;Tille: The Genome of the Natural Genetic Engineer Agrobacterium tumefaciens C58.

A;Accession: AB3053

A;Accession: AB3053

A;Status: preliminary

A;Nolecule type: DNA

A;Residues: 1-96 < KUR>
A;Eversidues: 1-96 < KUR>
A;Experimental source: strain C58 (Dupont)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 95.0%; Score 19; DB 2; Length 97; Best Local Similarity 100.0%; Pred. No. 2.7e+02; Matches 0; Indels
                                                                                                                                                                                                                                                                                                                                 A; Map position: linear chromosome
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Superfamily: macromomycin
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A55872
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Species: Methanococcus jannaschii

Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 12-Jun-2003

Bacter 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 12-Jun-2003

Bacter 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 12-Jun-2003

Bacter 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 12-Jun-2003

Reich, C.I.; Overbeek, R.; Xirkness, E.F.; Weinstock, K.G.; Merrick, J.M.; Glodek, A.; Sen, J.D.; Sadow, P.M.; Hanna, M.C.; Cotton, M.D.; Roberts, K.M.; Hurst, M.A.

Son, J.D.; Sadow, P.M.; Hanna, M.C.; Cotton, M.D.; Roberts, K.M.; Hurst, M.A.

Authors: Kaine, B.P.; Borodovsky, M.; Klenk, H.P.; Fraser, C.M.; Smith, H.O.; Woese, C.

Title: Complete genome sequence of the methanogenic archaeon, Methanococcus jannaschii

Accession: C64490

Status: preliminary; nucleic acid sequence not shown; translation not shown

Residues: 1-108 *BUD.

Cross-references: GB:U67593; GB:L77117; NID:g2826427; PIDN:AAB99550.1; PID:g1592154; T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;Residues: Î-109 <COL>
;Cross-references: GB:AL021646; GB:AL123456; NID:g3242278; PIDN:CAA16648.1; PID:g282759
;Experimental source: strain H37Rv
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Cole, S.T.; Brosch, R.; Parkhill, J.; Garnier, T.; Churcher, C.; Harris, D.; Gordon, S. Cole, S.T.; Brosch, R.; Parkhill, J.; Garnier, T.; Gentles, S.; Hamlin, N.; Holroyd, S. ajandream, M.A.; Sogers, J.; Rutter, S.; Seeger, K.; Skelton, S.; Squares, S. ature 393, 537-544, 1998

Authors: Sqares, R.; Sulston, J.E.; Taylor, K.; Whitehead, S.; Barrell, B.G.

Fittle: Deciphering the biology of Mycobacterium tuberculosis from the complete genome Reference number: A70500; MUID:98295987; PMID:9634230
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Graves, M.V.; Van Etten, J.L.

SReference number: 218806; Accession: T1782; Status: preliminary; translated from GB/EMBL/DDBJ

Status: preliminary; translated from GB/EMBL/DDBJ

Roblecule type: DNA

Roblecule type: DNA

Roblecule EMBL: U42580; NID: 94028896; PIDN: AAC96460.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      robable regulator - Mycobacterium tuberculosis (strain H37RV)
;Species: Mycobacterium tuberculosis
;Date: 17-Jul-1998 #sequence_revision 17-Jul-1998 #text_change 20-Jun-2000
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95.0%; Score 19; DB 2; Length 108;
Best Local Similarity 100.0%; Pred. No. 3e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ,Map position: FOR1501406-1501732
,Superfamily: uncharacterized conserved protein MJ1524
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Best Local Similarity 100...
Lagar 4; Conservative
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kedarcidin [validated] - Streptoalloteichus sp. (ATCC 53650)
| Alternate names: kedarcidin apoprotein
| C.Species: Streptoalloteichus sp. (ATCC 53650)
| A.Variety: strain L585-6 (ATCC 53650)
| A.Variety: strain L585-6 (ATCC 53650)
| A.Variety: strain L587-2 | ATCC 53650|
| C.Accession: A55872 | ATSON 0.A.; Malacko, A.R.; Marquardt, H.
| A. Antibiot. 45, 1250-1254, 1992 | A. Antibiot. 45, 1992 | A. Antibiot. 45, 1992 | A. Antibiot. 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            type III export protein PscI PA1722 [imported] - Pseudomonas aeruginosa (strain PAO1) CiSpecies: Pseudomonas aeruginosa (ciDate: 15-Sep-2000 #sequence_revision 15-Sep-2000 #text_change 31-Dec-2000 CiAccession B33431 B3441 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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Submitted to the Brookhaven Protein Data Bank, June 1994

By Bubmitted to the Brookhaven Protein Data Bank, June 1994

By Reference number: A52519; PDB:1AKP

By Contents: annotation; conformation and disulfide bond assignments by (1)H-NMR, residues

Contents: annotation; conformation and disulfide bond assignments by (1)H-NMR, residues

By Contents: Acad. Sci. U.S.A. 90, 8009-8012, 1993

By Title: Selective proteolytic activity of the antitumor agent kedarcidin.

By Reference number: AS8601, MUID:93376732; PMID:9367457

By Contents: annotation; protein activity

A; Note: the apoprotein may have proteolytic activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: protein
A; Residues: 1-114 4.0F.
A; Note; sequence extracted from NCBI backbone (NCBIP:118354)
R; Constantine, K.L.; Colson, K.L.; Wittekind, M.; Friedrichs, M.S.; Zein, N.; Tuttle, J.;
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A;Status: preliminary
A;Molecule type: DNA
A;Rolecule type: DNA
A;Cross-references: GB:AE004598; GB:AE004091; NID:g9947687; PIDN:AAG05111.1; GSPDB:GN001:
A;Experimental source: strain PAO1
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C;Superfamily: Yersinia enterocolitica plasmid pYV virC-region hypothetical protein yscI
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A,Experimental source: specific host Chlorella strain NC64 C,Gentelics: A92L A;Gente: A92L C,Superfamily: Chlorella virus PBCV-1 hypothetical protein A92L
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CjAccession: A01608
R;Hobart, P.M.; Shen, L.P.; Crawford, R.; Pictet, R.L.; Rutter, W.J.
Science 210, 1360-1363, 1980
A;Title: Comparison of the nucleic acid sequence of anglerfish and mammalian insulin mRN
A;Reference number: A94254; MUID:81056434; PMID:7001633
A;Reference number: A94254; MUID:81056434; PMID:7001633
A;Resence number: A01608
A;Residues: 11-16 cfADB.
A;Cross-references: Des.V00634; GB:V00634; NID:g64025; PIDN:CAA23907.1; PID:g64026
C;Reywords: hormone; pancreas
F;1-24/Domain: signal sequence #status predicted cSIG>
F;25-54/Domain: insulin chain # #status predicted cACB>
F;56-93/Domain: connecting peptide #status predicted cACB>
F;56-93/Domain: insulin chain A #status predicted cACB>
F;56-116/Domain: insulin chain A #status predicted cACB>
F;56-116/Domain: insulin chain A #status predicted
F;32-102,44-115,101-106/Disulfide bonds: #status predicted
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C;Species: 24-Aug-2001 #sequence_revision 24-Aug-2001 #text_change 30-Sep-2001
C;Date: 24-Aug-2001 #sequence_revision 24-Aug-2001 #text_change 30-Sep-2001
C;Date: 24-Aug-2001 #sequence_revision 24-Aug-2001 #text_change 30-Sep-2001
R;Barnett, M.J.; Fisher, R.F.; Jones, T.; Komp, C.; Abola, A.P.; Barloy-Hubler, F.; Bows ; Kalman, S.; Keating, D.H.; Palm, C.; Peck, M.C.; Surzycki, R.; Wells, D.H.; Yeh, K.C. A;Title: Nucleotide sequence and predicted functions of the entire Sinorhizobium melilot A;Reference number: A95262; MUID:21396509; PMID:11481432
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A;Experimental source: strain 1021, megaplasmid pSyma
R;Galibert, F.; Finan, T.M.; Long, S.R.; Puhler, A.; Abola, P.; Ampe, F.; Barloy-Hubler,
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C;Species: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Date: 05-May-2000 #sequence_revision 05-May-2000 #text_change 05-May-2000
C;Accession: T48688
R;Poustka, A.; Wellenreuther, R.; Mewes, H.W.; Weil, B.; Wiemann, S.
R;Poustka, A.; Wellenreuther, B.; Mewes, H.W.; Weil, B.; Wiemann, S.
A;Reference number: 224535
31-Mar_1981 #sequence_revision 31-Mar-1981 #text_change 16-Jul-1999
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A,Status: preliminary
A,Molecule type: mRNA
A,Residues: 1-118 cAAA>
A,Cross-references: EMBL,AL353932
A,Experimental source: adult amygdala; clone DKFZp761N05121
C,Genetics:
A,Note: DKFZp761N05121.1
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Matches 4; Conservative
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A;Residues: 1-119 <KUR>
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4;Accession: D7518
4;Status: preliminary
4;Rolecule type: DNA
4;Cross-references: GB:AJ248283; GB:AL096836; NID:g5457433; PIDN:CAB49195.1; PID:e151508
4;Experimental source: strain Orsay
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  iypothetical protein AGR_C_804 [imported] - Agrobacterium tumefaciens (strain C58, Cered); Species: Agrobacterium tumefaciens

); Species: Agrobacterium tumefaciens

); Date: 30-Sep-2001 #sequence_revision 30-Sep-2001 #text_change 18-Nov-2002

); Accession: D97414

3; Accession: D97414

3; Gattung, S.; Miller, N.; Blanchard, M.; Qurollo, B.; Goldman, A.; Liu, F.; Wollam, C.; Allinger, M.; Doughty, D.; Scott, C.; Lappas, C.; Markelz, B.; Science 294, 2323-2328, 2001

3; Fitle: Genome Sequence of the Plant Pathogen and Biotechnology Agent Agrobacterium tum A; Reference number: A97359; MUID:21608551; PMID:11743194
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C.Date: 20-Aug-1999 #sequence_revision 20-Aug-1999 #text_change 20-Aug-1999
C.Aocession: D7518
Anonymous, Genococpe
Submitted to the EMBL Data Library, July 1999
A.Description: Pyrococcus abyssi genome sequence: insights into archaeal chromosome stru
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\(\frac{\psi}{\psi}\) \text{ folecule type: DNA}
\(\frac{\psi}{\psi}\) \text{ FREADOUSES: 1-114 \cdot \
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0. 3.2e+02;
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95.0%; Score 19; DB 2; Length 114;
Best Local Similarity 100.0%; Pred. No. 3.2e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                         0; Indels
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Best Local Similarity 100.0%; Pred. No. 3.2e+02;
Matches 4; Conservative 0; Mismatches 0;
                        ?;Keywords: antibiotic; pigment binding
?;37-47,88-95/Disulfide bonds: #status experimental
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C;Species: Lophius americanus (American goosefish)
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Best Local Similarity 100.0%; Pred. No. 3.2
Matches 4; Conservative 0; Mismatches
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4,Map position: circular chromosome
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Simpson, A.J.G.; Reinach, F.C.; Arruda, P.; Abreu, F.A.; Acencio, M.; Alvarenga, R.; Fiones, M.R.S.; Bueno, M.R.P.; Canargo, A.A.; Camargo, L.B.A.; Carraro, D.M.; Carrer, H. S.-Neco, E.; Bocena, C.; Bl-Dorry, H.; Facincani, A.P.; Ferreira, A.J.S.

ibmitted to GenBank, June 2000
Authors: Ferreira, V.C.A.; Ferro, J.A.; Franca, S.C.; Franco, M.C.; Frohm D.; Junqueira, M.L.; Kemper, E.L.; Kitajina, J.P.; Krieger, J.E.; Kuramae, E.E.; Laign ado, M.A.; Madeira, A.M.B.N.; Madeira, H.M.F.; Marino, C.L.; Marques, M.V.; Mattins, E.G.; Mire; Maresukuma, A.Y.; Menney, C.L.; Marques, M.V.; Mattins, E.G.; Mire; Marchia, M.A.; Allineira, M.A.; de Oliveira, M.C.; de Oliveira, R.C.; Palmieri, D.A. odrigues, V.; Rosa, A.J. de M.; de Rosa Jr., V.B.; de Sa, R.G.; Santelli, R.V.; Sawasak Authoko, M.H.; Vallada, H.; Van Sluys, M.A.; Verjovski-Almeida, S.; Vettore, A.L.; Z. Reference number: A59328
ila, D.; Chain, P.; Cowie, A.; Davis, R.W.; Dreano, S.; Federspiel, N.A.; Fisher, R.F.; J.; Hyman, R.W.; Jones, T.; Lience 293, 668-672, 2010.
Authors: Kahn, D.; Kahn, M.L.; Kalman, S.; Keating, D.H.; Kiss, B.; Komp, C.; Lelaure, bault, P.; Vandenbol, M.; Vorholter, F.J.; Weidner, S.; Wells, D.H.; Wong, K.; Yeh, K. Title: The composite genome of the legume symbiont Sinorhizobium meliloti.
Reference number: A96039; MUID:21368234; PMID:11474104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Appensive Temagnetic Factories and Partial Tearing Control of Species (Spider Partial Factories) Appensive Temagnetic Factories and Partial Fastidiosa Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #sequence_revision 20-Aug-2000 #sequence_revision 20-Aug-2000 #sequence_revision Temagnetic The Spider Spider (The Gramman Temagnetic) The Genome sequence of the plant pathogen Xylella fastidiosa.

The factories and Complete list of authors see reference number A59328 below Accession: F82861
Status: preliminary
Modecule type: DNA
Residues: 1-122 SIM>
Cross-references: GB:AB003851; NID:g9112238; PIDN:AAF85575.1; GSPDB:GN00130; XFSC:XFaq
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             njugal transfer protein XFa0006 [imported] - Xylella fastidiosa (strain 9a5c)
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                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 95.0%; Score 19; DB 2; Length 119
Best Local Similarity 100.0%; Pred. No. 3.4e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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Local Similarity 100.0%; Pred. No. 3.4e+02;
nes 4; Conservative 0; Mismatches 0; Indels
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59129
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hypothetical protein Rv3675 - Mycobacterium tuberculosis (strain H37RV)
C;Species: Mycobacterium tuberculosis
C;Decies: Mycobacterium tuberculosis
C;Decies: Mycobacterium tuberculosis
C;Decies: Mycobacterium tuberculosis
C;Decies: 17-7u1-1998 #sequence_revision 17-Ju1-1998 #text_change 22-Oct-1999
C;Accession: D70798
B;Cole, S.T.; Brosch, R.; Parkhill, J.; Garnier, T.; Churcher, C.; Harris, D.; Gordon, S.; Connor, R.; Davies, R.; Devlin, K.; Feltwell, T.; Gentles, S.; Hanlin, M.; Holroyd, S.; Rajandream, M.A.; Rogers, J.; Rutter, S.; Seeger, K.; Skelton, S.; Squares, S.
Rajandream, M.A.; Rogers, J.; Rutter, S.; Seeger, K.; Skelton, S.; Squares, S.
Rajandream, H.; Sulston, J.B.; Taylor, K.; Whitehead, S.; Barrell, B.G.
A;Authors: Sqares, R.; Sulston, J.B.; Taylor, K.; Whitehead, S.; Barrell, B.G.
A;Ateference number: A70500; MUID:98295987; PMID:9634230
A;Accession: D70790
A;Accession: D70790
A;Accession: D70790
A;Accession: D70790
A;Regidues: 1-125 <COL>
A;COL>
A;COSS-references: GB:AL022121; GB:AL123456; NID:g3261559; PIDN:CAA17997.1; PID:e126453: A;Experimental source: strain H37Rv
C;Genetics: Rv3675
i. Qlu, D.; Spadafora, R.; Vicaire, R.; Wang, Y.; Wierzbowski, J.; Gibson, R.; Jiwani, N.; Jik, S.; Church, G.M.; Daniels, C.J.; Mao, J.; Rice, P.; Noelling, J.; Reeve, J.N.
J. Bacteriol. 179, 1135-7155, 1997
A;Title: Complete genome sequence of Methanobacterium thermoautotrophicum Delta H: functi
A;Reference number: A69000; MUID:98037514; PMID:9371463
A;Reference number: A69000; MUID:98037514; PMID:9371463
A;Reference number: A69000; MUID:98037514; PMID:9371463
A;Residues: preliminary; nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
A;Residues: 1-125 <MIT>
A;Residues: 1-125 <MIT>
A;Cross-references: GB:AE000810; GB:AE000666; NID:g2621277; PIDN:AAB84740.1; PID:g2621285
A;Genetics: A;Genetics: Strain Delta H
C;Genetics: A;Genetics: A;Gen
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C'Species: Campylobacter jejuni
C'Species: Campylobacter jejuni
C'Species: Campylobacter jejuni
C'Species: Campylobacter jejuni
C'Species: Danalogo #sequence_revision 31-Mar-2000 #text_change 03-Jun-2002
C'Accession: B81368
R.Parkfill, J.; Wren, B.W.; Mungall, K.; Ketley, J.M.; Churcher, C.; Basham, D.; Chilling
R.Parkfill, J.; Wren, B.W.; Mungall, K.; Ketley, J.M.; Churcher, C.; Basham, D.; Chilling
C'M.; Quail, M.; Rajandream, M.A.; Rutherford, K.M.; VanVllet, A.; Whitehead, S.; Barrelj
Nature 403, 665-669, 2000
A.Pitle: The genome sequence of the food-borne pathogen Campylobacter jejuni reveals hype
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A;Status: preliminary
A;Nolecule type: DNA
A;Molecule type: DNA
A;Reaidues: 1-126 < PAR>
A;Coss-references: GB:AL139076; GB:AL111168; NID:G6968128; PIDN:CAB73196.1; PID:g6968376;
A;Experimental source: serotype O2, strain NCTC 11168
C;Genetics:
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Best Local Similarity 100.0%; Pred. No. 3.5e+02;
Matches 4; Conservative 0; Mismatches 0;
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Best Local Similarity 100.0%; Pred. No. 3.5e+02;

Matches 4; Conservative 0; Mismatches 0;
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probable cathepsin B-like cysteine proteinase (EC 3.4.22.-) T15B16.17b - Arabidopsis that probable cathepsin B-like cysteine proteinase (EC 3.4.22.-) T15B16.17b - Arabidopsis that C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Accession: T02012
R;Stoneking, T.; Smith, R.
Siberited to the EMBL Data Library, November 1998
A;Description: The sequence of A. thaliana T15B16.
A;Reference number: Z14488
A;Reference number: Z14488
A;Reference number: Z14488
A;Reference number: Z14488
A;Retus: translated from GB/EMBL/DDBJ
A;Retus: translated from GB/
                                                                                                 ilea, 1 lipid-binding protein - mouse
C;Species: Mus musculus (house mouse)
C;Species: Mus musculus (house mouse)
C;Species: Mus musculus (house mouse)
C;Date: 28-Oct-1994 #sequence_revision 28-Oct-1994 #text_change 05-Nov-1999
C;Accession: A54797
R;Crossman, M.W.; Hauft, S.M.; Gordon, J.I.
C;Call Biol. 126, 1547-1564, 1994
A;Title: The mouse ileal lipid-binding protein gene: a model for studying axial patterni
A;Reference number: A54797
A;Accession: A54797
A;Accession: A54797
A;Accession: A54797
A;Accession: A54797
A;Accession: A54797
A;Accession: A54797
A;Cross-references: GB:U00938; NID:G507143; PIDN:AAC27352.1; PID:G507144
C;Genetics:
A;Introns: 23/1; 81/3; 111/3
C;Superfamily: myelin P2 protein
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D72348
conserved hypothetical protein - Thermotoga maritima (strain MSB8)
C;Species: Thermotoga maritima
C;Species: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 21-Jul-2000
C;Accession: D72348
R;Nelson, K.E.; Clayton, R.A.; Gill, S.R.; Gwinn, M.L.; Dodson, R.J.; Haft, D.H.; Hickey
Garrett, M.M.; Stewart, A.M.; Cotton, M.D.; Pratt, M.S.; Phillips, C.A.; Richardson, D.;
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A,Title: Evidence for lateral gene transfer between Archaea and Bacteria from genome seq.
A,Reference number: A72200; MUID:99287316; PMID:10360571
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100.0%; Pred. No. 3.6e+02;
tive 0; Mismatches 0;
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Best Local Similarity 100.0
Matches 4; Conservative
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Science 294, 849-852, 2001

JAuthors: Kreft, J.; Kuhn, M.; Kunst, F.; Kurapkat, G.; Madueno, E.; Maitournam, A.; Ma's, C.; Schlueter, T.; Simose, N.; Tierrez, A.; Vazquez-Boland, J.A.; Voss, H.; Wehland, J.Title: Comparative genomics of Listeria species.

JR. C.; Schlueter, T.; Wuldp.21537279; PMID:11679669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       V.Status: preliminary; nucleic acid sequence not shown; translation not shown V.Boxidus: 1-127 colors.
V.Tossidus: 1-127 colors.
V.Tossidus: 1-127 colors.
V.Tossidus: 1-137 colors.
V.Tossidus: 1-137 colors.
V.Experimental source: strain H37RV
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*Authors: Sqares, R.; Sulston, J.E.; Taylor, K.; Whitehead, S.; Barrell, B.G.

*Authors: Garciphering the biology of Mycobacterium tuberculosis from the complete genome **Reference number: A70500; MUID:98295997; PMID:9634230
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ypothetical protein Rv3747 - Mycobacterium tuberculosis (strain H37RV)
;Species: Mycobacterium tuberculosis
;Date: 17-Jul-1998 #sequence_revision 17-Jul-1998 #text_change 20-Jun-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ).Species: Listeria innocua ; Date: 27-Nov-2001 #text_change 27-Nov-2001; Accession: AB1732
                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Gaps
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                                                                           Query Match
95.0%; Score 19; DB 2; Length 126;
Best Local Similarity 100.0%; Pred. No. 3.6e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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Best Local Similarity 100.0%; Pred. No. 3.6e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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',Residues: 1-127 <GLA>
                                                                                                                                                                                                                                                                                                             83 VAEF 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    80 VAEF 83
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2 VAEF 5
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1, Gene: Cj0939c
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Gene: TM0655

SULT 44

Genetics

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C;Species: Yersinia pestis
C;Species: Yersinia pestis
C;Species: Yersinia pestis
C;Date: 02-Nov-2001
S;Accession: AH0137
C;Accession: AH0137
R;Parkhill, J; Wren, B.W.; Thomson, N.R.; Titball, R.W.; Holden, M.T.G.; Prentice, M.B.;
deno-Tarraga, A.M.; Chillingworth, T.; Cronin, A.; Davies, R.M.; Davis, P.; Dougan, G.; Il, M.; Rutherford, K.; Simmonds, M.; Skelton, J.; Stevens, K.; Whitehead, S.; Barrell, F.
Nature 413, 523-527, 2001
A;Title: Genome sequence of Yersinia pestis, the causative agent of plague.
A;Reference number: AB0001; MUID:21470413; PMID:11586360
                                                                                                                                                                                                            C;Species: Nostoc sp. PCC 7120
A;Note: Nostoc sp. strain PCC 7120
C;Date: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 09-Dec-2002
C;Accession: AG1996
C;Accession: AG1996
B;KaneKo, T.; Nakamura, Y.; Wolk, C.P.; Kuritz, T.; Sasamoto, S.; Watanabe, A.; Iriguchi, Nakazaki, N.; Shimpo, S.; Sugimoto, M.; Takazawa, M.; Yamada, M.; Yasuda, M.; Tabata, S. Nakazaki, N.; Shimpo, S.; Sugimoto, M.; Takazawa, M.; Yamada, M.; Yasuda, M.; Tabata, S. A;Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium Anak A;Reference number: AB1807; MUID:21595285; PMID:11759840
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C;Species: Deinococcus radiodurans
C;Species: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 17-Mar-2000
C;Accession: H7563
R;White, O.; Esten, J.A.; Heidelberg, J.F.; Hickey, E.K.; Peterson, J.D.; Dodson, R.J.; R;White, O.; Shen, M.; Vamathevan, J.J.; Lam, P.; McDonald, L.; Utterback, T.; Zalewski, C.; Ma.; Smith, H.O.; Venter, J.C.; Fraser, C.M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        conserved hypothetical protein YPO1120 [imported] - Yersinia pestis (strain C092)
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A,Molecule type: DNA
A,Residues: 1-132 «KUR»
A);Residues: 1-132 «KUR»
A);Cross-references: GB:BA000019; PIDN:BAB77891.1; PID:g17135345; GSPDB:GN00179
A;Experimental source: strain PCC 7120
C;Genetics:
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A;Molecule type: DNA
A;Residues: 1-133 «KUR»
A;Cross-references: GB:AL590842; PIDN:CAC89963.1; PID:g15979187; GSPDB:GN00175
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                                                                                                          RESULT 46
AG1996
hypothetical protein alri525 [imported] - Nostoc sp. (strain PCC 7120)
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95.0%; Score 19; DB 2; Le
Best Local Similarity 100.0%; Pred. No. 3.8e+02;
Matches 4; Conservative 0; Mismatches 0;
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100.0%; Pred. No. 3.7e+02;
tive 0; Mismatches 0;
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Best Local Similarity 100.
Matches 4; Conservative
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C;Superfamily: rbcX protein
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81 VAEF 84
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Species: Anabaena sp.
Species: Anabaena sp.
Date: M. Species: Anabaena sp.
Larimer, F.W.; Soper, T.S.
So
                                Status: prediminary
Molecule type: DNA
Molecule type: DNA
Residues: 1-130 cARN>
Cross-references: GB:AE001739; GB:AE000512; NID:g4981176; PIDN:AAD35739.1; PID:g498117
Experimental source: strain MSB8
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.Date: 20-Aug-1999 #sequence_revision 20-Aug-1999 #text_change 06-Jan-2003
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95.0%; Score 19; DB 2; Length 132;
Best Local Similarity 100.0%; Pred. No. 3.7e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                95.0%; Score 19; DB 2; Length 130; 100.0%; Pred. No. 3.7e+02; ive 0; Mismatches 0; Indels
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95.0%; Score 19; DB 2; Length 131

Best Local Similarity 100.0%; Pred. No. 3.7e+02;

Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                   Superfamily: conserved hypothetical protein MJ0315
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Residues: 1-132 <LAR>
Cross-references: DDBJ:J01540
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Best Local Similarity luv...
4; Conservative
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Superfamily: rbcX protein
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            Accession: D72348
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Gene: PAB2224
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Genetics:

SULT 45

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Cyaccession: D85576

Cyaccession: D85776

Cyaccession: D85776

Cyaccession: D85776

Cyaccession: D85776

Cyaccession: D85776

Cyaccession: D85776

Cyaccessi
                         A;Status: nucleic acid sequence not shown; translation not shown
A;Status: nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
A;Moscule type: DNA
A;Residuas: 1-134 <BLAT>
A;Cross-references: GB:AB000177; GB:U00096; NID:g1786955; PIDN:AAC73830.1; PID:g1786957;
A;Experimental source: strain K-12; substrain MG1655
C;Comment: This is one of the proteins, encoded by the fii-tolAB gene cluster, that is is Genetics:
A;Gene: ybgC
A;Map position: 17 min
A;Start codon: GTG
C;Superfamily: 15.5K protein (tolAB operon 5' region)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       hypothetical protein ybgc [imported] - Escherichia coli (strain 0157:H7, substrain EDL93
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C;Bpecies: Berberichia coli
C;Date: 16-Feb-2001 #sequence_revision 16-Feb-2001 #text_change 14-Sep-2001
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95.0%; Score 19; DB 2; Le
Best Local Similarity 100.0%; Pred. No. 3.8e+02;
Matches 4; Conservative 0; Mismatches 0;
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A;Gene: ybgC
C;Superfamily: 15.5K protein (tolAB operon 5' region)
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A;Accession: G64809
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.;Species: Escherichia coli
.;Date: 15-Cot-1984 #sequence_revision 30-Jun-1988 #text_change 01-Mar-2002
.;Accession: A25980; 664809
3;Sun, T.P.; Webster, R.E.
T. Bacteriol. 159, 2657-2674, 1987
1. Bacteriol. 159, 2657-2674, 1987
1. The certiol. 159, 2657-2674, 1987
1. The certiol and the sequence of a gene cluster involved in entry of E colicins and single the ference number: A91835; MUID:87222192; PMID:3294803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ciboflavin synthase beta subunit [imported] - Halobacterium sp. NRC-1

):Species: Halobacterium sp. NRC-1

):Species: Halobacterium sp. NRC-1

):Date: 0.2-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 02-Feb-2001

):Accession: A64221

3;NG; W.V.; Kennedy, S.P.; Mahairas, G.G.; Berquist, B.; Pan, M.; Shukla, H.D.; Lasky, S. (Leithauser, B.; Kellers, T. (Turz, R.; Danson, M.J.; Hough, D.W.; Maddocks, D.G.; Jablc Jung, K.H.; Alam, M.; Freitas, T.

):roc. Natl. Acad. Sci. U.S.A. 97, 12176-12181, 2000

):Action Sequence of Halobacterium species NRC-1.

):Reference number: A84160; MUID:20504483; PMID:11016950
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R;Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; Buxland, V.; Riley, M.; Cc.A.; Rose, D.J.; Mau, B.; Shao, Y.
Science 277, 1453-1462, 1997
A;Ttle: The complete genome sequence of Escherichia coli K-12.
4;Reference number: A64720; MUID:97426617; PMID:9278503
                                    Title: Genome sequence of the radioresistant bacterium Deinococcus radiodurans R1.
Reference number: A75250; MUD:20036896; PMID:10567266
RACESSION: H75623
RACESSION: H75623
RACESSION: H75623
RACESSION: H756203
RACESSION: H75623
RACESSION: H75633
RACESSION: H75623
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N; Status: preliminary
N; Molecule type: DNA
N; Mesidues: 1-133 <STO>
N; Cross-references: GB: AE004437; NID: 910580221; PIDN: AAG19133.1; GSPDB: GN00138
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100.0%; Pred. No. 3.8e+02;
iive 0; Mismatches 0;
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Best Local Similarity 100.
Matches 4; Conservative
          286, 1571-1577, 1999
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\(\text{i,Genome: plasmid}\)
\(\text{i,Note: plasmid MP1}\)

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flagellar basal-body rod protein FlgC VC2199 [imported] - Vibrio cholerae (strain N16961 C;Species: Vibrio cholerae
C;Date: 18-Aug-2000 #sequence_revision 20-Aug-2000 #text_change 02-Feb-2001
C;Accession: F82106
C;Accession: F82106
C;Heidelberg, J.F.; Eisen, J.A.; Nelson, W.C.; Clayton, R.A.; Gwinn, M.L.; Dodson, R.J.; R.Heidelberg, J.F.; Eisen, J.A.; Venter, J.C.; Fraser, C.M.
I, R.H.; Makalanos, J.J.; Venter, J.C.; Fraser, C.M.
Nature 406, 477-483, 2000
A;Title: DNA Sequence of both chromosomes of the cholera pathogen Vibrio cholerae.
A;Recence number: A82035; MUID:20406833; PMID:10952301
A;Accession: F81106
A;Accession: F81108
A;Accession: F81108
A;Accession: F82106
A;Accession: P82106
A;Accession: F82106
A;Access
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C;Accession: A69052 #sequence_revision 05-Dec-1997 #text_change 05-May-2000 C;Accession: A69052 M.; Daniels, C.; Lee, H.; Dubois, J.; Aldredge, T.; F.; Aismith, D.; Spadafora, R.; Vicaire, R.; Wang, Y.; Wierzbowski, J.; Gibson, R.; Jiwani, N.; Oiu, D.; Spadafora, R.; Vicaire, R.; Wang, Y.; Wierzbowski, J.; Gibson, R.; Jiwani, N.; C.; Bacteriol. 179, 7135-7155, 1997

A;Title: Complete genome sequence of Methanobacterium thermoautotrophicum Delta H: functi A;Reference number: A69000; MUID:98037514; PMID:9371463

A;Accession: A69052

A;Accession: A69052

A;Accession: A69052

A;Accession: A69052
                                                                                Cypace: Singar-Voor measured-reverse.

Cypace: Singar-Voor measured-reverse.

Ryparkhill, J.; Wren, B.W.; Mungall, K.; Ketley, J.M.; Churcher, C.; Basham, D.; Chilling Ryparkhill, J.; Wren, B.W.; Mungall, K.; Ketley, J.M.; Churcher, C.; Basham, D.; Chilling Nature 403, 665-668, 2000

A; Title: The genome sequence of the food-borne pathogen Campylobacter jejuni reveals hype A; Reference number: A81250; MUID:20150912; PMID:10688204

A; Reference number: A81250; MUID:20150912; PMID:10688204

A; Residues: preliminary

A; Residues: J-137 cPAR>
A; Residues: 1-137 cPAR>
A; Residues: 1-137 cPAR>
A; Cross-references: GB:AL139076; GB:AL111168; NID:g6968128; PIDN:CAB73094.1; PID:g6968278; A; Genetics:
C; Genetics:
A; Cross-references: GB:AL13porfe; Directin yneT
     C;Species: Campylobacter jejuni
C;Date: 31-Mar-2000 #sequence_revision 31-Mar-2000 #text_change 03-Jun-2002
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Best Local Similarity 100.0%; Pred. No. 3.9e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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Species: Synechocystis sp.
Variety: PCC 6803
Date: 25-Apr-1997 #sequence_revision 25-Apr-1997 #text_change 20-Jun-2000
Accession: S76416
Faneko, T.; Sato, 8.; Kotani, H.; Tanaka, A.; Asamizu, E.; Nakamura, Y.; Miyajima, N.; Kaneko, T.; Sato, 8.; Shimpo, S.; Takeuchi, C.; Wada, T.; Watanabe, A.; Yamada, M.; Yasuda R.; Okumura, S.; Shimpo, S.; Takeuchi, C.; Wada, T.; Watanabe, A.; Yamada, M.; Yasuda IA Res. 3, 109-136, 1996
Title: Sequence analysis of the genome of the unicellular cyanobacterium Synechocystis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Status: preliminary
Molecule type: DNA
Molecule type: DNA
Residues: 1-136 <KAN>
Cross-references: EMBL:D90915, GB:AB001339; NID:g1653604; PIDN:BAA18545.1; PID:g165363
Note: the nucleotide sequence was submitted to the EMBL Data Library, June 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Accession: AD0592

Parkhill, J.; Dougan, G.; James, K.D.; Thomson, N.R.; Pickard, D.; Wain, J.; Churcher, T.; Connerton, P.; Cronin, A.; Davis, P.; Davies, R.M.; Dowd, L.; White, N.; Farrar, S.; Moule, S.; O'Gaora, P.

ture 413, 848-852, 2001

Authors: Parry, C.; Quail, M.; Rutherford, K.; Simmonds, M.; Skelton, J.; Stevens, K.; Title: Complete genome sequence of a multiple drug resistant Salmonella enterica seroy Accession: AD0592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             nserved hypothetical protein STY0790 [imported] - Salmonella enterica subsp. enterica Species: Salmonella enterica subsp. enterica servoar Typhi Note: this species has also been called Salmonella typhi Date: 09-Nov-2001 #sequence_revision 09-Nov-2001 #text_change 18-Nov-2002
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pothetical protein Cj0829c [imported] - Campylobacter jejuni (strain NCTC 11168)
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Residues: 1-134 <PAR>
Cross-references: GB:AL513382; PIDN:CAD05206.1; PID:g16501976; GSPDB:GN00176
                                                                                                         Gaps
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95.0%; Score 19; DB 2; Length 134;
Best Local Similarity 100.0%; Pred. No. 3.8e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
Query Match 95.0%; Score 19; DB 2; Length 134; Best Local Similarity 100.0%; Pred. No. 3.8e+02; Matches 4; Conservative 0; Mismatches 0; Indels
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Local Similarity 100.0%; Score 19; DB 2; Length 136
Local Similarity 100.0%; Pred. No. 3.9e+02;
les 4; Conservative 0; Mismatches 0; Indels
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Accession: S76416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Superfamily: 15.5K protein (tolAB operon 5' region)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VAEF 91
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Page 20

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riboflavin synthase, subunit beta (ribE) homolog - Archaeoglobus fulgidus
C;Species: Archaeoglobus fulgidus
C;Species: Archaeoglobus fulgidus
C;Species: Archaeoglobus fulgidus
C;Date: 0.5-Dec-1997 #sequence_revision 05-Dec-1997 #text_change 21-Jul-2000
C;Accession: H69515
R;Klenk, H.P.; Clayton, R.A.; Tomb, J.F.; White, O.; Nelson, K.E.; Ketchum, K.A.; Dodson, F. Fleischmann, R.D.; Quackenbush, J.; Lee, N.H.; Sutton, G.G.; Gill, S.; Kirkness, B.F., Glodek, A.; Zhou, L.; Overbeek, R.; Gocayne, J.D.; Weidman, J.F.; McDonald, L.
Nature 390, 364-370, 1997
A;Authors: Uterback, T.; Cotton, M.D.; Spriggs, T.; Artiach, P.; Kaine, B.P.; Sykes, S.N.
Smith, H.O.; Woese, C.R.; Venter, J.C.
A;Attle: The complete genome sequence of the hyperthermophilic, sulfate-reducing archaeor
A;Reference number: A69250; MUID:98049343; PMID:9389475
                                                                                                 Owertemperature regulated protein BN115 - rape
C; Species: Brassica napus (rape)
C; Species: Brassica napus (rape)
C; Species: Brassica napus (rape)
C; Date: 30-Sep-1993 #sequence_revision 20-Aug-1994 #text_change 28-May-1999
C; Date: 30-Sep-1993 #sequence_revision 20-Aug-1994 #text_change 28-May-1999
B; Meretilnyk, E.; Orr, W.; White, T.C.; Lu, B.; Singh, J.
R; Meretilnyk, E.; Orr, W.; White, T.C.; Lu, B.; Singh, J.
R; Meretilnyk, E.; Orr, W.; White, T.C.; Lu, B.; Singh, J.
R; Meretilnyk, E.; Orr, W.; White, T.C.; Lu, B.; Singh, J.
R; Meretilnyk, E.; Orr, W.; White, T.C.; Lu, B.; Singh, J.
R; Maccession: JQ2279
A; Reference number: JQ2279
A; MJD:94165287; PMID:9544693; PIDN:AAB29482.1; PID:9544694
C; Comment: This protein is a low-temperature-related protein.
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C;Superfamily: riboflavin synthase beta chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Species: Brassica napus (rape)
C;Date: 30-Sep-1993 #sequence_revision 20-Aug-1994 #text_change 28-May-1999
C;Accession: U2291
B;Weretilnyk, E.; Orr, W.; White, T.C.; Iu, B.; Singh, J.
Plant Physiol. 101, 171-177, 1993
A;Title: Characterization of three related low-temperature-regulated cDNAs from winter 1A;Reference number: UQ2279; MUD:94105287; PMID:7904076
A;Accession: UQ2280
A;Molecule type: mANA
A;Residues: 1-142 <WER>
A;Cross-references: GB:S68879; NID:9544695; PIDN:AAB29483.1; PID:9544696
C;Comment: This protein is a low-temperature-related protein.
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A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 142
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100.0%; Pred. No. 4e+02;
iive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Patch 95.0%; Score 19; DB 2; Local Similarity 100.0%; Pred. No. 4e+02; les 4; Conservative 0; Mismatches 0
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Best Local Similarity 100.(
Matches 4; Conservative
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Matches
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JO2280
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           !/Takami, H.; Nakasone, K.; Takaki, Y.; Maeno, G.; Saeaki, R.; Masui, N.; Fuji, F.; Hira
!ucleic Acids Res. 28, 4317-4331, 2000
./Title: Complete genome sequence of the alkaliphilic bacterium Bacillus halodurans and
!,Reference number: A83550; MUID:20512582; PMID:11058132
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"Species: Archaeoglobus fulgidus
"Species: Archaeoglobus fulgidus
"Species: Archaeoglobus fulgidus
"Accession: DS-1937 #sequence_revision 05-Dec-1997 #text_change 24-Nov-1999
"Accession: B6923"
"Stlenk, H.P.; Clayton, R.A.; Tomb, J.F.; White, O.; Nelson, K.E.; Ketchum, K.A.; Dodson; Fleischmann, R.D.; Quackenbush, J.; Lee, N.H.; Sutton, G.G.; Gill, S.; Kirkness, E.F.; Glodek, A.; Zhou, L.; Overbeek, R.; Gocayne, J.D.; Weidman, J.F.; McDonald, L.; Attue 390, 364-370, 1997
"Authors: Utterback, T.; Cotton, M.D.; Spriggs, T.; Artiach, P.; Kaine, B.P.; Sykes, S.; Mith, H.O.; Nosse, C.R.; Venter, J.C.
"Atther complete genome sequence of the hyperthermophilic, sulfate-reducing archaect; Reference number: A69250; MUID:98049343; PMID:9389475
,Cross-references: GB:AE000902; GB:AE000666; NID:g2622500; PIDN:AAB85867.1; PID:g262250
;Experimental source: strain Delta H
;Genetics:
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4;Experimental source: strain C-125
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,Cross-references: GB:AE001064; GB:AE000782; NID:g2689387; PIDN:AAB90658.1; PID:g265004
;Superfamily: Archaeoglobus fulgidus hypothetical protein AF0586
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.,Status: preliminary; nucleic acid sequence not shown; translation not shown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pothetical protein BH2601 [imported] - Bacillus halodurans (strain C-125) Species: Bacillus halodurans
Date: 01-Dec_2000 #sequence_revision 01-Dec-2000 #text_change 15-Jun-2001
                                                                                                                                                                                                                                                                                                                      Gaps
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95.0%; Score 19; DB 2; Length 139;
Best Local Similarity 100.0%; Pred. No. 3.9e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                            Query Match 95.0%; Score 19; DB 2; Length 139; Best Local Similarity 100.0%; Pred. No. 3.9e+02; Matches 4; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Superfamily: Bacillus subtilis hypothetical protein ylbD
                                                                                                                                                      Superfamily: riboflavin synthase beta chain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ny Molecule type: DNA
Ny Residues: 1-139 <STO>
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                                                                                                                  Gene: MTH1390
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A, Residues: 1-145 <KAN>
A, Residues: 1-145 <KAN>
A, Cross-references: EMBL-104005, GB:AB001339, NID:g1001779, PIDN:BAA10735.1; PID:g100658:
A, Note: the nucleotide sequence was submitted to the EMBL Data Library, June 1996
C, Superfamily: Synechocystis hypothetical protein s110678
   DNA Res. 3, 109-136, 1996
A, Title: Sequence analysis of the genome of the unicellular cyanobacterium Synechocystis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Status: preliminary
A;Molecule type: DWA
A;Residues: 1-146 <KUR>
A;Cross-references: GB:BA000018; PID:g13700560; PIDN:BAB41857.1; GSPDB:GN00149
A;Experimental source: strain N315
C;Genetics:
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A;Residues: 1-147 <STO>
A;Cross-references: GB:AE004437; NID:g10580903; PIDN:AAG19719.1; GSPDB:GN00138
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                                                                                                                                 A;Accession: 877043
A;Status: nucleic acid sequence not shown; translation not shown
A;Molecule type: DNA
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                                                                                                  A; Reference number: S74322; MUID: 97061201; PMID: 8905231
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100.0%; Pred. No. 4.2e+02;
tive 0; Mismatches 0;
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C,Superfamily: hypothetical protein yjcF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity 100.0
Matches 4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              35 VAEF 38
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 VAEF 5
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                             Species: Streptomyces coelicolor

Date: 02-Sep-2000 #sequence_revision 02-Sep-2000 #text_change 02-Sep-2000

Accession: 736978

Oliver, K.; Harris, D.; Bentley, S.D.; Parkhill, J.; Barrell, B.G.; Rajandream, M.A.; Dantled to the EMBL Data Library, August 1999

Accession: 736978

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;Species: Synechocystis sp.
;Species: Synechocystis sp.
;Date: 25-Apr-1997 #sequence_revision 25-Apr-1997 #text_change 20-Jun-2000
;Accession: S77043
;Kaneko, T.; Sato, S.; Kotani, H.; Tanaka, A.; Asamizu, B.; Nakamura, Y.; Miyajima, N.; K.; Okumura, S.; Shimpo, S.; Takeuchi, C.; Wada, T.; Watanabe, A.; Yamada, M.; Yasuda
                                                                                                                                                                                                                                                                                                                                                                     obable transposase, truncated section 1 [imported] - Streptomyces coelicolor (fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ibosomal protein L13 [similarity] - Haloarcula marismortui

/Species: Haloarcula marismortui

/Dote: 21-Jul-2000 #sequence_revision 21-Jul-2000 #text_change 14-Apr-2003

/Accession: B41715

/Kroemer, W.J. Arndt, B.

- Biol. Chem. 266, 24573-24579, 1991

/Title: Halobacterial S9 operon. Three ribosomal protein genes are cotranscribed with
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Nolecule type: DNA
Nesidues: 1-145 «KRO»
;Cross-references: GB:M76567; NID:g148775; PIDN:AAA73097.1; PID:g148777
;Superfamily: ribosomal protein L13
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       Length 143;
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95.0%; Score 19; DB 1; Length 145;
Best Local Similarity 100.0%; Pred. No. 4.1e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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Query Match 95.0%; Score 19; DB 2; Length 143
Best Local Similarity 100.0%; Pred. No. 4.1e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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Accession: B41715
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100.0%; Pred. No. 4.1e+02;
tive 0; Mismatches 0;
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Best Local Similarity 100.0
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                                                                                                                                                                                                10 VAEF 13
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                                                                                                                                 VAEF 5
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ribose 5-phosphate isomerase homolog lmo0498 [imported] - Listeria monocytogenes (strair c)Species: Listeria monocytogenes
C;Species: Listeria monocytogenes
C;Species: Listeria monocytogenes
C;Date: 27-Nov-2001 #sequence_revision 27-Nov-2001
C;Accession: AC1137
R;Glaser, P.; Frangeul, L.; Buchrieser, C.; Amend, A.; Baquero, F.; Berche, P.; Bloecker
R;Glaser, P.; Frangeul, L.; Buchrieser, C.; Amend, A.; Baquero, F.; Berche, P.; Bloecker
D; Jonnes, L.M.; Karst, U.
Science 294, 849-852, 2001
A;Authors: Kreft, J.; Kuhn, M.; Kunst, F.; Kurapkat, G.; Madueno, E.; Maitournam, A.; Ma
Ok, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Varquez-Boland, J.A.; Voss, H.; Wehland,
A;Authors: Reference number: AB1077; MUID:21537279; PMID:11679669
A;Scatus: preliminary
A;Status: preliminary
A;Residues: 1-149 cGLA>
A;Crossion: AGLAA>
A;Cro
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C;Species: Agrobacterium tumefaciens
C;Species: Agrobacterium tumefaciens
C;Species: Agrobacterium tumefaciens
C;Accession: AB2857
R;Mood, D.W.; Setubal, J.C.; Kaul, R.; Monks, D.; Chen, L.; Wood, G.E.; Chen, Y.; Woo, L.
R;Mood, D.W.; Setubal, J.C.; Kaul, R.; Monks, D.; Chen, L.; Wood, G.E.; Chen, Y.; Woo, L.
Rarp, P.; Romero, P.; Zhang, S.
Science 294, 2317-2323, 2001
A;Authors: Yoo, H.; Tao, Y.; Biddle, P.; Jung, M.; Krespan, W.; Perry, M.; Gordon-Kamm,
R;Zwickl, P.; Fabry, S.; Bogedain, C.; Haas, A.; Hensel, R.
D Bacteriol. 172, 4329-4338, 1990
A;Title: Glyceraldehyde-3-phosphate dehydrogenase from the hyperthermophilic archaebacte
scherichia coli.
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A,Title: The Genome of the Natural Genetic Engineer Agrobacterium tumefaciens CS8.

A,Reference number: AB2577; MUID:21608550; PMID:11743193

A,Accession: AB2577.
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A;Molecule type: DNA
A;Residues: 1-150 <KUR>
A;Residues: 1-150 <KUR>
A;Cross-references: GB:AE008688; PIDN:AAL43272.1; PID:g17740759; GSPDB:GN00186
A;Experimental source: strain C58 (Dupont)
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                                                                                                                                                                                                        A;Reference number: S10650; MUID:90330536; PMID:2165475
A;Accession: S10655
A;Aolecule type: DNA
A;Residues: 1-148 <ZMI>A;Note: the authors translated the codon GGT for residue 54 as Glu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 95.0%; Score 19; DB 2; Length 148; Best Local Similarity 100.0%; Pred. No. 4.2e+02; Matches 4; Conservative 0; Mismatches 0; Indels
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C;Superfamily: galactoside O-acetyltransferase
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881788
conserved hypothetical protein NMA2160 [imported] - Neisseria meningitidis (strain Z2491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Status: preliminary
A;Molecule type: DNA
A;Residues: 1-148Ax>
A;Crosa-references: GB:AL162758; GB:AL157959; NID:g7380672; PIDN:CAB85372.1; PID:g738078
A;Experimental source: gerogroup A, strain Z2491
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4,Status: preliminary; translated from GB/EMBL/DDBJ
4,Status: preliminary; translated from GB/EMBL/DDBJ
4,Modecule type: DNA
4,Residues: 1.147 < MUR>
4,Cross-references: EMBL:AL023797; PIDN:CAA19410.1; GSPDB:GN00070; SCOEDB:SC2E1.35
4,Experimental source: strain A3(2)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'ypothetical protein SC2E1.35 - Streptomyces coelicolor
'jpbcies Streptomyces coelicolor
'jpbcies Streptomyces coelicolor
'jpace: 05-Nov-1999 #sequence_revision 05-Nov-1999 #text_change 04-Mar-2000
'jAccession: T34803
'jAccession: T34803
'jMurphy, L.; Harris, D.; Parkhill, J.; Barrell, B.G.; Rajandream, M.A.
'submitted to the EMBL Data Library, June 1998
'jReference number: Z21857
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C;Species: Pyrococcus woesei
C;Date: 31-Dec-1990 #sequence_revision 31-Dec-1990 #text_change 18-Jun-1993
C;Accession: 810655
                                                                                                                    Gaps
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95.0%; Score 19; DB 2; Length 147;
Best Local Similarity 100.0%; Pred. No. 4.2e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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Best Local Similarity 100.0%; Pred. No. 4.2e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
     Length 147;
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Query Match
95.0%; Score 19; DB 2; Li
Best Local Similarity 100.0%; Pred. No. 4.2e+02;
Matches 4; Conservative 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                            117 VAEF 120
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cience 294, 849-852, 2001
; Authors: Kreft, J.; Kuhn, M.; Kunst, F.; Kurapkat, G.; Madueno, E.; Maitournam, A.; Mak, C.; Schlueter, T.; Simoes, N.; Tierrez, A.; Vazquez-Boland, J.A.; Voss, H.; Wehland, J.Title: Comparative genomics of Listeria species.
; Reference number: AB1077; MJID:21537279; PMID:11679669
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Reference number: AB1077; MUID:21537279; PMID:11679669
Status preliminary
Molecule type: DNA
Residues: 1-150 «GLA»
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.Species: Listeria innocua
.Date: 27-Nov-2001 #sequence_revision 27-Nov-2001 #text_change 27-Nov-2001
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Molecule type: DNA
Relations: 1-150 GLAA
Residues: 1-150 GLAA
Frequences: GB:NC 003210; PIDN:CAC98328.1; PID:g16409472; GSPDB:GN00177
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| Cross-references: GB:AL592022; PIDN:CAC95393.1; PID:g16412579; GSPDB:GN00178
| Experimental source: strain Clip11262
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Date: 27-Nov-2001 #sequence_revision 27-Nov-2001 #text_change 27-Nov-2001
Accession: AB1089
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C;Species: Caulobacter crescentus
C;Species: Caulobacter crescentus
C;Date: 20-Apr-2001 #sequence_revision 20-Apr-2001 #text_change 20-Apr-2001
C;Accession: H87263
C;Accession: H87263
R;Nierman, W.C.; Feldblyum, T.V.; Paulsen, I.T.; Nelson, K.E.; Eisen, J.; Heidelberg, J.;
B.; Laub, M.T.; DeBoy, R.T.; Dodson, R.J.; Durkin, A.S.; Gwinn, M.L.; Haft, D.H.; Kolon;
n, J.; Ernolaeva, M.; White, O.; Salzberg, S.L.; Shapiro, L.; Venter, J.C.; Fraser, C.M.
Proc. Natl. Acad. Sci. U.S.A. 98, 4136-4141, 2001
A;Title: Complete Genome Sequence of Caulobacter crescentus.
A;Reference number: A87249; MUID:21173698; PMID:11259647
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A;Molecule type: DNA
A;Residues: 1-151 «STO»
A;Cross-references: GB:AE005673; NID:g13421228; PIDN:AAK22108.1; GSPDB:GN00148
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                    P21885 bacillus

052351 mycoplasma

055623 thermoplasma

055628 caenorhabdi

P2628 arabidopsis

087912 anabaena sp

046051 drosophila

P72245 rhodobacter

040051 saccharomyc

032412 rickettsia

03aby4 c bifunctio

P26334 trypanosoma

P38140 saccharomyc

P29109 cavia porce
                                                                                                             P49109 cavia porce
28xbv3 escherichia
                                                                                                                                                                                                                                                                   Prasad H.K., Annapurna P.S.;
Submitted (DEC-1997) to Swiss-Prot.
-!-SIMILARITY: STRONG, TO THE N-TERMINALS OF C.ELEGANS F20A1.4
AND H.INFLURNZAB HIO967.
-!-CAUTION: We are unable to find this protein in the translation of begenome of strain H37Rv.
OND TER 19 AB; 2211 MW; ABC1854BFIFF1F70 CRC64;
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15-DEC-1998 (Rel. 37, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Preprotein translocase secE subunit.
SECE OR TP0235.
Bacteria; Spirochaetes; Spirochaetales; Spirochaetaceae; Treponema.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
STRAIN-Nichols,
MEDLINE-99332770; Pubwed-9665876;
Fraser C.M., Norris S.J., Weinstock G.M., White O., Sutton G.G.,
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 Q8zyd8
P42590
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15-JUL-1999 (Rel. 38, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
30 kDa non-secretory protein 2 (Fragment).
Mycobacterium tuberculosis.
Bacteria, Actinobacteria, Actinobacteridae, Actinomycetales, Corynebacterineae, Mycobacterium.
NGEL TAXID=1773;
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SYC PYRAE
YGJI ECOLI
GUNA XANCP
                                 SYFA THEAC
GALC CAEEL
NU4C ARATH
PUR9 ANASP
C4DE DROME
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Y538_RICPR
PUR9_CAUCR
VSM6_TRYBB
                                                                                                      YEAST
CAVPO
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Matches 4; Conservative
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       11 VAEF 14
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STRAIN=H37Rv;
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P81136;
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IS2_MYCTU
BURERSSKANDERSKOORF
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SIGNOBNICE FROM N.A.

STRAIN=VC-16 / DSM 4304 / ATCC 49558;

MEDLINE=98049343; PubMed=9389475;

MEDLINE=98049343; PubMed=9389475;

A Klenk H.-P., Clayton R.A., Gwinn M., Hickey E.K., Peterson J.D.,

Richardson D.L., Kerlavage A.R., Graham D.E., Kyrpides N.C.,

Richardson D.L., Kerlavage A.R., Graham D.E., Kyrpides N.C.,

A Fleischmann R.D., Quackenbush J., Lee N.H., Sutton G.G., Gill S.,

Kirkness E.F., Dougherty B.A., McKenney K., Adams M.D., Loftus B.,

A Peterson S., Reich C.I., McNeil L.K., Badger J.H., Glodek A., Zhou L.,

A Cotton M.D., Spriggs T., Artiach B.P., Sykes S.M.,

A Sadow P. W., D'Andrea K.P., Bowman C., Fujii C., Garland S.A.,

Mason I.M., Olsen G.J., Fraser C.M., Smith H.O., Woese C.R.,
Dodson R., Gwinn M., Hickey E.K., Clayton R., Ketchum K.A.,
Sodergren E., Hardham J.M., McLeod M.P., Salzberg S., Peterson J.,
Khalak H., Richardson D., Howell J.K., Chidambaram M., Utterback T.,
McDonald L., Artiach P., Bowman C., Cotton M.D., Fujii C., Garland S.,
Hatch B., Horst K., Roberts K., Sandusky M., Weidman J., Smith H.O.,
Venter J.C.;
                                                                                                                                                                                                             "Complete genome sequence of Treponema pallidum, the syphilis spirochete.";
Science 281:37-388(1998).
1- FUNCTION: Essential for protein export.
-1- SUBCELIULAR LOCATION: Tail-anchored membrane protein (Potential).
-1- SIMILARITY: Belongs to the secE/SEC61-gamma family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
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InterPro; IPRO(05807; SecE. bac.
InterPro; IPRO(0584; SecE; 1.
TIGRPAMS; TIGRO(0564; 3a0501806; 1.
PROSTIE; PSO(1667; SECE SECGIG); 1.
PROSTIE; PSO(1667; SECE SECGIG); 1.
PROSTIE; PSO(1677; SECE SECGIG); 1.
PROSTIE; PSO(1677; SECE SECGIG); 1.
PROSTIE; PSO(1677; PRABELOCATION; TRANSMEMBYANG; COMplete proteome.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "The complete genome sequence of the hyperthermophilic, sulphate-reducing archaeon Archaeoglobus fulgidus.";
Nature 390:364-370(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
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Archaeoglobaceae; Archaeoglobus.
NCBL_TaxID=2234;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TRANSMEM 39 59 POTENTIAL.
SEQUENCE 59 AA; 6789 MW; 9AC35BA8F48B2A7F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
15-MAR-2004 (Rel. 43, Last annotation update)
Hypothetical UPF0165 protein AF1090.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; AE001205; AAC65223.1; -. PIR; E71349; E71349.
TIGR; TP0235; -.
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hes 4; Conservative
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029175;
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Whole-genome random sequencing and assembly of Haemophilus influenzae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.

STRAIN=RG / KW20 / ATCC 51907;

MEDLINE=55350630. PubMed=7542800;

Pleischmann R.D., Adams M.D., White O., Clayton R.A., Kirkness B.F., Rerlavage A.R., Bult C.J., Tomb J.-F., Dougherty B.A., Merrick J.M., McAnney K., Sutton G., Fitzhugh W., Fields C.A., Gocayne J.D., Soott J.D., Shirley R., Liu L.-I., Glodek A., Kelley J.M., Weidman J.F., Phillips C.A., Spriggs T., Hedblom B. Cotton M.D., Utterback T.R., Hanna M.C., Nguyen D.I., Saudek D.M., Brandon R.C., Fine L.D., Ritchman J.E., Fuhrmann J.E., Geoghagen N.S.M., Gnehm C.L., McDonald L.A., Small K.V., Fraser C.M., Smith H.O.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Science 269:496-512(1995).
-1- FUNCTION: This protein is one of the 16S ribosomal RNA binding proteins (By similarity).
-1- SIMILARITY: Belongs to the S1SP family of ribosomal proteins.
                                                                                                                                                                                                                                                                                                                                                                                                                              01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
28-FRB-2003 (Rel. 41, Last annotation update)
30S ribosomal protein S15.
(RPSO-A OR RPS15-A OR HI1328) AND (RPSO-B OR RPS15-B OR HI1468)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bacteria; Proteobacteria, Gammaproteobacteria, Pasteurellales;
Pasteurellaceae, Haemophilus.
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95.0%; Score 19; DB 1; Length 63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    563BAD2B8B8A7043 CRC64;
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Ribosomal protein, rRNA-binding, Complete proteome.
INIT MET 0 0 BY SIMILARITY.
                                1.1e+02;
                                                                   0; Mismatches
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InterPro, IPR005290; Ribosomal S15 b.
Pfam; PF00312; Ribosomal S15; T.
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                                   100.08;
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Best Local Similarity 100.
Matches 4; Conservative
                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Haemophilus influenzae.
                                Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                    27 VAEF 30
                                                                                                                             2 VAEF 5
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P44389;
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SEQUENCE
Query Match
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RESULT 5

RAS 15

RAS 16

RAS 16

RAS 17

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                                                  This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the Buropan Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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"Whole-genome random sequencing and assembly of Haemophilus influenzae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
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SEQUENCE FROM N.A.
STRAIN=RG / KW20 / ATCC 51907;
MEDLINE=95350530 PubMed=7542800;
Fleischmann R.D., Adams M.D., White O., Clayton R.A., Kirkness E.F., Relischmann R.D., Adams M.D., White O., Clayton R.A., Merrick J.M., McKenney K., Sutton G., Firzhugh W., Fields C.A., Gocayne J.D., Scott J.D., Shirley R., Liu L.-I., Glodek A., Kelley J.M., Weidman J.F., Phillips C.A., Spriggs T., Hedblom E., Cotton M.D., Utterback T.R., Hanna M.C., Nguyen D.T., Saudek D.M., Brandon R.C., Fine L.D., Fritchman J.L., Geoghagen N.S.M., Genen C.L., McDonald L.A., Small K.V., Fraser C.M., Smith H.O.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
0
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Pasteurellaceae; Haemophilus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 59;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro; IPRO08203; DUF104.
InterPro; IPR008204; DUF104_N.
Pfam; PF01954; DUF104; 1.
Hypotherical protein; Complete proteome.
SEQUENCE 59 AA; 6887 MW; B72E847382B2B6B6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hypothetical protein; Complete proteome.
SEQUENCE 63 AA; 7047 MW; 36B14E60AC306B67 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   95.0%; Score 19; DB 1; Le
100.0%; Pred. No. 1.1e+02;
:ive 0; Mismatches 0;
-!- SIMILARITY: Belongs to the UPF0165 family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         743998;
01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Hypothetical protein H10451.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       63 AA
                                                                                                                                                                                                                                                                                                                          EMBL; AE001028; AAB90157.1; -.
PIR; A69386; A69386.
TIGR; AF1090; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4; Conservative
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Best Local Similarity
Matches 4; Conserv
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51_HAEIN
_Y451_HAEIN
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Gaps

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EMBL; U67593; AAB99550.1; -.
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InterPro; IPR003793; DUF190.
Methanococcus jannaschii.
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Best Local Similarity
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CHARACTERIZATION.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bloinformatics Institute. There are no restrictions on its use by non-profit institutions at long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a licensee agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                       ALBAZ OR MK1089.
Methanopyrus kandleri.
Archaea; Euryarchaeota; Methanopyri; Methanopyrales; Methanopyraceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
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TIGREAMS; TIGRO0285; TIGRO0285; 1.
DNA-binding; Acetylation; Complete proteome.
MOD RES
SEQUENCE 93 AA; 10142 MW; EIID650FD5F63169 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 19; DB 1; Length 93;
Pred. No. 1.7e+02;
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                                                                                                                                                                                                 10-OCT-2003 (Rel. 42, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
DNA-binding protein Alba 2.
                                                                                                                  93 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
STRAIN=AV19 / DSM 6324 / JCM 9639;
MEDLINE=21927647; PubMed=11930014;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL, AE010398; AAM02302.1; -. HAWAR); MF 01122; -; 1. Interpro; IPR002775; DUF78. Ffam; PF01918; DUF78; 1.
                                                                                                                                                                           10-OCT-2003 (Rel. 42, Created)
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                                                                                                                  STANDARD;
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Best Local Similarity
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NCBI_TaxID=2320;
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                                                                                                                                                                                                                          SEQUENCE FROM N.A.
STRAIN=JAL-1 / DSM 2661 / ATCC 43067;
MEDLINE=96337999; PubMed=8688087;
MEDLINE=96337999; PubMed=8688087;
Bult C.J., White O., Olsen G.J., Zhou L., Fleischmann R.D.,
Sutton G.G., Blake J.A., FitzGerald L.M., Clayton R.A., Gocayne J.D.,
Kerlavage A.R., Dougherty B.A., Tomb J.-F., Adams M.D., Raich C.I.,
Overbeek R., Kirkness E.F., Weinstock K.G., Merrick J.M., Glodek A.,
Scott J.L., Geoghagen N.S.M., Weidman J.F., Fuhrmann J.L., Nguyen D.,
Utterback T.R., Kelley J.M., Peterson J.D., Sadow P.M., Hanna M.C.,
CCtton M.D., Roberts K.M., Hurst M.A., Kaine B.P., Borodovsky M.,
Klenk H.-P., Fraser C.M., Smith H.O., Woese C.R., Venter J.C.,
"Complete genome sequence of the methanogenic archaeon, Methanococcus
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MEDLINE-93015257; PubMed=1399845;
Hofstead S.J., Marson J.A., Malacko A.R., Marquardt H.;
"Kedarcidin, a new chromoprotein antitumor antibiotic. II. Isolation,
purification and physico-chemical properties.";
J. Antibiot. 45:1250-1254(1992).
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Proc. Natl. Acad. Sci. U.S.A. 90:8009-8012(1993).
[3]
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Zein N., Casazza A.M., Doyle T.W., Leet J.E., Scheoeder D.R.,
Solomon W., Nadler S.G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Actinomycete pp. (strain 1585-6 / ATCC 53650).
Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales.
ACBL_TaxID=38989;
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Hypothetical protein; Complete proteome.
SEQUENCE 108 AA; 12398 WW; D3E286AFB9D4AF8B CRC64;
Archaea; Euryarchaeota; Methanococci; Methanococales; Methanocaldococcaceae; Methanocaldococcus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Science 273:1058-1073(1996).
-!- SIMILARITY: BELONGS TO THE UPF0166 FAMILY.
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01-FEB-1995 (Rel. 31, Created)
01-FEB-1995 (Rel. 31, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
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SEQUENCE OF 25-54 AND 96-116.
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          STROUTURE BY NAT.
SINCULURE 12856/
SINCULURE 12856/
CONSTANTIONE 12856/
MEDLINE=95001848; PubMed=7918358;
CONSTANTIONE 12., COLSON K.L., Wittekind M., Friedrichs M.S.,
Zein N., Tuttle J., Langley D.R., Leet J.E., Schroeder D.R., Lam K.S.,
Farmer B.T. II, Metzler M.J., Bruccoleri R.E., Mueller L.;
Sequential 14, 13C, and 15N NMR assignments and solution
conformation of apokedarcidin.";
Blochemistry 33:11438-11452(1994).
-!-FUNCTION: BINDS NOW-COVALENTLY TO AN ENEDIYNE CHROMOPHORE WHICH IS
THE CYTOTOXIC AND WITAGENIC COMPONENT OF THE ANTIBIOTIC. THE
CHROMOPHORE CLEAVES DUPLEX DNA SITE-SPECIFICALLY IN A SINGLE-
STRANDED MANNER. THE APORROTEIN CLEAVES PROTEINS SELECTIVELY
THE MORE READILY.
THE MORE READILY.
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Bukaryota; Metazoa; Chordara; Craniata; Vertebrata; Buteleostomi;
Actinopterygii; Neopterygii; Teleostei; Buteleostei;
Acanthomorpha; Acanthopterygii; Percomorpha; Pleuronectiformes;
                                                                                                                                                                                                                                                                                                                                                                                   DOMAIN: THIS PROTEIN CONSISTS OF AN IMMUNOGLOBULIN-LIKE SEVEN-
STRANDED ANTIPARALLE: BETA-HARREL DOMAIN LINKED TO A SUBDOMAIN
COMPOSED OF TWO BETA-HAIREN RIBBONS.
SIMILARITY: Belongs to the neocarzinostatin family.
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NCBI_TaxID=98923;
[1]
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InterPro; IPR002186; Neocartinostat.
Pfam; PF00360; Neocartinostat; 1.
ProDom; PD012709; Neocartinostat; 1.
Antibiotic; DNA-binding; 3D-structure.
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Best Local Similarity
Matches 4; Conserv
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Gaps
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MEDLINE-81056434; PubMed=7001633;
Hobart P.M., Shen L.-F., Crawford R., Pictet R.L., Rutter W.J.;
"Comparison of the nucleic acid sequence of anglerfish and mammalian insulin mRNA's from cloned cDNA's.";
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INTERCHAIN (BY SIMILARITY).
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Insulin family; Hormone; Glucose metabolism; Signal.
                                                                                                                                                                                                                                             disulfide bonds.
--- SUBCELLULAR LOCATION: Secreted.
--- SIMILARITY: Belongs to the insulin family.
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C PEPTIDE.
INSULIN A CHAIN.
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21-JUL-1986 (Rel. 01, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
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Pfam; PF00049; Insulin; 1.
PRINTS; PR00277; INSULINB.
SMART; SM00078; IIGF; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; AB029318; BAA82315.1; -. HSSP; P01315; 1MPJ.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              115 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Insulin precursor.
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                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D., Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F., George R.A., Lewiss S.E., Richards S., Ashburner M., Henderson S.N., Sutton G.G., Wortman J.R., Yandell M.D., Zhang O., Chen L.X., Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
                                                    piscatorius).";
Hoppe-Seyler's Z. Physiol. Chem. 350:1286-1288 (1969).
-!- FUNCYICN: Insulin decreases blood glucose concentration. It increases cell permeability to monosaccharides, amino acids and fatty acids. It accelerates glyrolyeis, the pentose phosphate cycle, and glycogen synthesis in liver.
-: SUBRUNIT: Heterodimer of a B chain and an A chain linked by two
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
SPECIES=L.piscatorius,
MEDLINE=70036620; PubMed=5389298;
Neumann P.A., Koldenhof M., Humbel R.E.;
"Amino acid sequence of insulin from the angler fish (Lophius
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Drosophila melanogaster (Fruit fly).
Bukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      95.0%; Score 19; DB 1; Length 116; 100.0%; Pred. No. 2.1e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                          53 INSULIN B CHAIN.
53 C PEPTIDE.
116 INSTLIN A CHAIN.
115 INTERCHAIN.
116
3, 12737 MW, C686F9EF9183BEFE CRC64;
                                                                                                                                                                                                                                                                                                                                                  HSSP; PO1308; 1LPH.
InterPro; IPR004825; Ins/IGF/relax.
InterPro; IPR00495; Insulin; 1.
PRINTS; PR00277; INSULINB.
SMART; SM0078; INGF, 1.
SMART; SM00078; INGF, 1.
INSULIN; PS00525; INSULIN; 1.
Insulin family; Hormone; Glucose metabolism; Signal.
                                                                                                                                                          -!- SUBCELLUIAR LOCATION: Secreted.
-!- SIMILARITY: Belongs to the insulin family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10-0CT-2003 (Rel. 42, Created)
10-0CT-2003 (Rel. 42, Last sequence update)
10-0CT-2003 (Rel. 42, Last annotation update)
UPF0279 protein CG14505.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT; 119 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRAIN=Berkeley;
MEDLINE=20196006; PubMed=10731132;
                                                                                                                                                                                                                                                                                                                      EMBL; V00634; CAA23907.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                    disulfide bonds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               101 1
116 AA;
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Best Local Similarity
Matches 4; Conserv
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                                                                                                                                                                                                                                                                                                                                     PIR; A01608; IPAF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        80 VAEF 83
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RA Man K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G., Abril J.F., Agbayani A., An H.-J., Andrews-Pfannkoch C., Baldwin D., Ballew R.M., Basen A., Baremadale J., Bayraktarogolu L., Beasley E.M., Reeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S. Borkova D., Bochonn M.R., Bouck J., Brokstein P., Brottier P., Ra Burtis K.C., Bussam D.A., Butler H., Cadieu E., Center A., Chandra I., A Cherry J.M., Cawley S., Dahlke C., Davemport L.B., Davies P., Dankov B.C., Dunn P., Ra Cherry J.M., Cawley S., Dahlke C., Davemport L.B., Davies P., Durbin K.J., Evangelista C.C., Ferrac C., Ferrica S., Plesser K., Ra Dodson K.J., Evangelista C.C., Ferrac C., Ferrica S., Dunkov B.C., Dunn P., Ra Bartis N.L., Harvey D.A., Heiman T.J., Hernandez J.R., Houck J., Harris M.L., Harvey D.A., Heiman T.J., Hernandez J.R., Houck J., Harris M.L., Harvey D.A., Howland T.J., Well M.-H., Ibegwam C., Alalali M., Kalush F., Karpen G.H., Ke Z., Kennison J.A., Ketchum K.A., Alalali M., Kalush F., Karpen G.H., Ke Z., Kennison J.A., Ibegwam C., Lei Y., Levitsky A.A., Li J.H., Il Z., Lian Y., Markus B., McIntosh T.C., McLood M.P., McPherson D.L., Markus B., McIntosh T.C., McLood M.P., Murphy B., Murphy L., Murry D.M., Nelson D.L., Malazolo M., Pittman G., Milshina N.V., Mobarry C., Norris J., Puri V., Reese M.G., Rainert K., Remington K., Saunders R.D.C., Scheeler F., Shen H., Sylrskas R., Tector C., Turner R., Venter E., Wang A.H., Wang X., Walsenman D.A., Wainsten M., Strong R., Suith T., Shingson M., Strong R., Suith R., Saith H.O., Stapher M., Strong S., Yao Q.A., M. Welle G., Milliams S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao Q.A., A. Lin K., Merser E.W., Rubin G.M., Venter D.C., Stapher S., Zhang G., Zhao Q., Zhang G., Zhang R., Andrey E.W., Rubin G.M., Venter J.C., Stapher S., Zhang G., Zhang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the BYBL outstation the Buropean Bioinformatics in There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDIANE=22426066; PubMed=12537569; Stapleton M., Carlson J.W., Brokstein P., Yu C., Champe M., Stapleton M., Carlson J.W., Brokstein P., Yu C., Champe M., George R.A., Guarin H., Kronmiller B., Pacleb J.M., Park S., Wan K.H., Rubin G.M., Celniker S.E.; DANA resource."; Genome Biol. 3:RESEARCH0080.1-RESEARCH0080.8(2002).
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Pfam; PF05303; DUF727; L.
SECHTRICE 119 AA; 13534 MW; B3FA23FCCCE389AA CRC64;
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EMBL; AY084100; AAL89838.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FlyBase; FBgn0034327; CG14505.
InterPro; IPR007967; DUF727.
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GTR2_PIG

ID GTR2_PIG STANDARD;

AC 062786;

DT 28-FEB-2003 (Rel, 41, Created)
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Science 287:2185-2195(2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
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Best Local Similarity
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ANTERNACOCKARCAGAGA

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Pyrobaculum aerophilum.
Archaea, Crenarchaeota, Thermoprotei, Thermoproteales;
Thermoproteaceae, Pyrobaculum.
NCBI_TaxID=13773;
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PIRSF; PIRSF000029; Cytochrome_b562; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nterPro; IPR001196; Ribosomal L15.
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MEDLINE=21145866; PubMed=11248100;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; AE009779; AAL62941.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4; Conservative
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Best Local Similarity
Matches 4; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                           aerophilum.";
                                                                                                                                                                                                                                                                                                                                                                      Miller J.H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Y670 PASMU
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                        셤
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                                                                                                                                                                                                                                                                                                                                                                                                                                       Canty J.M., Young R.F., Fallavollita J.A.;
Submitted (MAR-1998) to the EMBL/GenBank/DBBJ databases.

-!- FUNCTION: Facilitative glucose transporter. This isoform likely mediates the bidirectional transfer of glucose across the plasma membrane of hepatocytes and is responsible for uptake of glucose by the beta cells; may comprise part of the glucose-ensing mechanism of the beta cells, may also participate with the Na(+)/glucose corransporter in the transcellular transport of glucose in the small intestine and kidney (By similarity).

-!- SUMCELULAR LOCATION: Integral membrane protein.

-!- SIMILARITY: Belongs to the sugar transporter family. Glucose transporter subfamily.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Solute carrier family 2, facilitated glucose transporter, member : Glucose transporter type 2, liver) (Fragment).
                                                                                                                                                                                                                 Sus scrofa (Pig).
Eukaryota, Metazoa, Chordata, Craniata; Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Suina, Suidae, Sus.
NCBI_TaxID=9823;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
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InterPro; IPR007114; MFS.
InterPro; IPR005829; Sug_transporter.
InterPro; IPR005829; Sug_transporter.
InterPro; IPR005663; Sugar_transporter.
InterPro; IPR005663; Sugar_transporter.
PROSTIE; PR00171; SUGRTRNSPORT.
PROSTIE; PS00216; SUGAR_TRANSPORT.
IPROSTIE; PS00216; SUGAR_TRANSPORT.
IF ARNSPORT:
ITANSEMBLAND.
TRANSEMBLAND.
TRANSEMBL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             11 (POTENTIAL).
EXTRACELLULAR (POTENTIAL).
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EXTRACELLULAR (POTENTIAL).
10 (POTENTIAL).
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18E PYRAE

182 PYRAE

2 QAZYÓZ;

1 28-FEB-2003 (Rel. 41, Created)

1 28-FEB-2003 (Rel. 41, Last sequence update)

1 28-FEB-2003 (Rel. 41, Last sequence update)

2 S6-FIDOSOMA1 PYCLEIN LIBE.
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57
78
106
120
120 AA;
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Best Local Similarity
Matches 4: Conserv
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SEQUENCE FROM N.A.
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TRANSMEM
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TRANSMEM
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SEQUENCE
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DOMAIN

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                                                                                                                                     "Genome sequence of the hyperthermophilic crenarchaeon Pyrobaculum
SEQUENCE FROM N.A.
STRAIN=IM2 / ATCC 51768 / DSM 7523;
MEDLINE=21664397; PubMed=11792869;
Fitz-Gibbon S.T., Ladner H., Kim U.-J., Stetter K.O., Simon M.I.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pasteurella multocida.
Bacteria; Proteobacteria; Gammaproteobacteria; Pasteurellales;
Pasteurellaceae; Pasteurella.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          95.0%; Score 19; DB 1; Length 122; 100.0%; Pred. No. 2.2e+02;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     88F3DB732C4E0394 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Hypothetical protein PM0670 precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PROSITE; PSO1106; RIBOSOWAL L18E; FALSE NEG. Ribosomal protein; Complete proteome. SEQUENCE 122 AA; 13252 MW; 88F3DB732C4E0
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IGR; TM0655;
                                        SPEH THEMA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CHAIN
                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SUBCELLULAR LOCATION: Cytoplasmic.
SIMILARITY: Belongs to the fatty-acid binding protein (FABP)
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                                                                            95.0%; Score 19; DB 1; Length 124; 100.0%; Pred. No. 2.2e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACETYLATION (BY SIMILARITY).
                                     24 124 HYPOTHETICAL PROTEIN PM0670.
124 AA; 13746 MW; D7B2B485C7B51B9A CRC64;
                                                                                                                                                                                                                                             01-0cT-1996 (Rel. 34, Created)
01-0CT-1996 (Rel. 34, Last sequence update)
10-0CT-2003 (Rel. 42, Last annotation update)
Gastrotropin (GT) (Ileal lipid-binding protein) (ILBP).
FABP6 OR ILLEP.
Hypothetical protein; Signal; Complete proteome. SIGNAL 1 23 POTENTIAL. CHAIN 24 120
                                                                                                                                                                                                                      127 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MGD; MGI:96565; Fabb6.
InterPro; IPRO00463; Fatty acid BP.
InterPro; IPR000566; Lipocln_cyTFABP.
Pfam; PF00061; lipocalin; 1.
PRINTS; PR00178; FATTYACIDBP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           127 AA; 14355 MW;
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                                                                                                                                                                                                                                                                                                                                                               [1]
SEQUENCE FROM N.A.
SEQUENCE TO TISSUE=Liver;
                                                                                                         4; Conservative
                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                             Mus musculus (Mouse).
                                                                                Query Match
Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=10090;
                                                                                                                                                 ||||
45 VAEF 48
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                                                                                                                                 2 VAEF 5
                                                                                                                                                                                               ESULT 15
LBP_MOUSE
D_ILBP_MOUSE
                                                        SEQUENCE
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Matches
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91 VAEF 94

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CHAIN (BY SIMILARITY).
S-ADENOSYLASTHIONINE DECARBOXYLASE ALPHA
CHAIN (BY SIMILARITY).
CLEAVAGE (NONHYDROLYTIC) (BY SIMILARITY).
CONVERTED TO A PYRUVOYL GROUP (BY
                                                                                                                                                                                                                                                                                                           STEQUENCE FROM N.A.
STRAIN-MABB / DSM 3109 / ATCC 43589;
MEDLINE-99287316; PubMed=10360571;
MEDLINE-99287316; PubMed=10360571;
MESON K.B., Clayton R.A., Gill S.R., Gwinn M.L., Dodson R.J.,
Haft D.H., Hickey E.K., Peterson J.D., Nelson W.C., Ketchum K.A.,
McDonald L., Utterback T.R., Malek J.A., Linher K.D., Garrett M.M.,
Heidelberg J., Sutton M.D., Pratt M.S., Phillips C.A., Richardson D.,
Heidelberg J., Smith H.O., Venter J.C., Fraser C.M.;
"Evidence for lateral gene transfer between Archaea and Bacteria from
genome sequence of Thermotoga maritima.",
Nature 339:32-329[199].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
15-FRB-2004 (Rel. 43, Last annotation update)
S-adenosylmethionine decarboxylase proenzyme (EC 4.1.1.50) (AdoMetDC)
(SamDC) (Contains: S-adenosylmethionine decarboxylase beta chain; S-adenosylmethionine decarboxylase alpha chain)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HAMME, MF_00464; -; 1.
InterPro; IPR003824; SAMDC.
Pfam; PF02675; AdoMeDC; 1.
Spermidine biosynthesis; Lyase; Decarboxylase; Zymogen; Pyruvate;
                                                                                                                                                                                                                                     Bacteria; Thermotogae; Thermotogales; Thermotogaceae; Thermotoga.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7659FE20A2019928 CRC64;
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Pred. No. 2.3e+02;
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130 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; AE01739; AAD35739.1; -. PIR; D72348; D72348.
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STANDARD;
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                                                                                                                                                                                                                  Thermotoga maritima.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
Matches 4; Conserv
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                                                                                                                                                                                                                                                                 NCBI_TaxID=2336;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                63
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                                                                                                                                                                                           SPEH OR TM0655
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Y194 PYRAB
ID Y194 PYRAB
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Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
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P08999;
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Best Local Si
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셤
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions and its modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
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NG W.V., Kennedy S.P., Mahairas G.G., Berquist B., Pan M.,
NG WILL A.D., Lasky S.R., Baliga N.S., Thorsson V., Sbrogna J.,
Swarzaell S., Weit D., Hall J., Dahl T.A., Welti R., Goo Y.A.,
Leithauser B., Keller K., Cruz R., Danson M.J., Hough D.W.,
Maddocks D.G., Jablonski P.E., Krebs M.P., Angevine C.M., Dale H.,
Isenbarger T.A., Peck R.F., Pohlschroder M., Spudich J.L., Jung K.-H.,
Alam M., Freitas T., Hou S., Daniels C.J., Dennis P.D., Omer A.D.,
                                                                                                                                                                                                                                                                                                                                                                                         STRAIN=GES / Orsay;
MEDLINE=2251145; PubMed=12622808;
COhen G.N., Barbe V., Flament D., Galperin M., Heilig R., Lecompte O., Poch O., Prieur D., Querellou J., Ripp R., Thierry J.-C.,
Van der Oost J., Weissenbach J., Zivanovic Y., Forterre P.;
"An integrated analysis of the genome of the hyperthermophilic archaeon Prococcus abyses:", 1495-1512(2003).
-:- SIMILARITY: Belongs to the UPF0146 family.
                           16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2003 (Rel. 42, Last sequence update)
Hypothetical UPF0146 protein PYRAB01940.
PYRAB01940 OR PAB2224.
Pyrabococcus abyssi.
Archaea, Euryarchaeota, Thermococci; Thermococcales, Thermococcacae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
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Archaea, Buryarchaeota, Halobacteria, Halobacteriales;
Halobacteriaceae, Halobacterium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                'Match 55.0%; Score 19; DB 1; Length 131; Local Similarity 100.0%; Pred. No. 2.3e+02; es 4; Conservative 0; Mismatches 0; Indels
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SEQUENCE 131 AA; 14629 MW; D13F378187F832C3 CRC64;
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16-OCT-2001 (Rel. 40, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
6,7-dimethyl-8-ribityllumazine synthase (EC 2.5.1.9) (Lumazine synthase) (Riboflavin synthase beta chain).
RIBH OR RIBE OR VNG0630G.
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ProDom; PD021130; UPF0146; 1.
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InterPro; IPR005353; UPF0146.
Pfam; PF03686; UPF0146; 1.
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                                                                                                                                                                                                                                                                                         NCBI_TaxID=29292;
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Q9HRMS;
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                                                                                                                                       catalyzing the formation of riboflavin from 5-amino-6.(1'-b).
ribityl-amino-2,4(1H.3H)-pyrimidinedione and L-3,4-dihydrohy-2-butanone-4-phosphate of,7-dimethyl-8-lumazine. The beta subunit catalyzes the condensation of 5-amino-6.(1'-b)-ribityl-amino-2,4(1H.3H)-pyrimidinedione with L-3,4-dihydrohy-2-butanone-4-phosphate yielding 6,7-dimethyl-8-lumazine (By similarity).
-!- CATALYTIC ACTIVITY: 2 6,7-dimethyl-8-lumazine (By similarity).
-!- PATHWAY: Riboflavin biosynthesis; last step.
-!- PATHWAY: Riboflavin biosynthesis; last step.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Nucleotide sequence of a gene cluster involved in entry of E colicins and single-stranded DNA of infecting filamentous bacteriophages into
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
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SPECIES-B.coli; STRAIN-KIZ / MG1655;
SPECIES-B.coli; STRAIN-KIZ / MG1655;
Blattner F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland V., Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F.,
   Ebhardt H., Lowe T.M., Liang P., Riley M., Hood L., DasSarma S.; Genome sequence of Halbbacterium species NRC-1."; Proc. Natl. Acad. Sci. U.S.A. 97:12176-12181(2000).
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DasSarma S.;
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YBGC OR B0736 OR C0815 OR Z0904 OR ECS0771 OR SF0561 OR S0574.
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HAMAP, MC 20178, 1HQK.

HAMAP, MC 20178, 1HQK.

HAMAP, MC 20178, 1HGK.

Prodom: PF00885; DMRL synthase.

Prodom: PD03664; DMRL synthase; 1.

Prodom: PD03664; DMRL synthase; 1.

Riboflavin biosynthesis; Transferase; Complete proteome. SEQUENCE 133 AA; 13719 MW; B9724DC24660DGCD CRC64;
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100.0%; Pred. No. 2.4e+02;
ive 0; Mismatches 0;
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01-NOV-1988 (Rel. 09, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
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NCBI_TaxID=562, 217992, 83334, 623;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
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MEDLINE=87222192; Pubmed=3294803;
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Escherichia coli O6,
Escherichia coli 0157:H7, and
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Page 16

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SEQUENCE FROM N.A.
SPECIES=E.coli; STRAIN-0157.H7 / RIMD 0509952;
MEDLINE-21156231; PubMed=11258796;
Hayashi T., Makino K., Ohnishi M., Kurokawa K., Ishii K., Yokoyama K., Han C.-G., Ohtsubo E., Nakayama K., Murata T., Tanaka M., Tobe T., Han C.-G., Ohtsubo E., Nakayama K., Murata T., Tanaka M., Tobe T., Kuhara S., Shiba T., Hattori M., Shinagawa H.; Kuhara S., Shiba T., Hattori M., Shinagawa H.; Complete genome sequence of enterohemorrhagic Escherichia coli "Complete genome for the contact of enterohemorrhagic Scherichia coli 0157:H7 and genomic comparison with a laboratory strain K-12.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Genome sequence of Shigella flexmeri 2a: insights into pathogenicity through comparison with genomes of Escherichia coli K12 and 0157."; Nucleic Acids Res. 30:4432-4441(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=22272406; PubWed=12384590;
Jin Q., Yuan Z., Xu J., Wang Y., Shen Y., Lu W., Wang J., Liu H.,
Yang J., Yang F., Zhang X., Zhang J., Yang G., Wu H., Qu D., Dong J.,
Sun L., Xue Y., Zhao A., Gao Y., Zhu J., Kan B., Ding K., Chen S.,
Cheng H., Yao Z., He B., Chen R., Ma D., Qiang B., Wen Y., Hou Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
SPECIES=E.coli; STRAIN=O6:H1 / CFT073 / ATCC 700928;
MEDLINE=22388234; PubMed=12471157;
MEDLINE=2388234; PubMed=12471157.
Welch R.A., Burland V., Plunkett G. III, Redford P., Roesch P., Rasko D., Buckles E.L., Liou S.-R., Boutin A., Hackett J., Stroud D., Mayhew G.F., Rose D.J., Zhou S., Schwartz D.C., Perna N.T., Mobley H.L.T., Donnenberg M.S., Blattner F.R.;
"Extensive mosaic structure revealed by the complete genome sequence of uropathogenic Escherichia coll.";
Proc. Natl. Acad. Sci. U.S.A. 99:17020-17024 (2002).
                                                                                                      SECUENCE FROM N.A.
SEQUENCE FROM N.A.
ALDA H., BADA T., FUJICA K., Hayashi K., Honjo A.,
Oshima T., Alba H., BaDa T., FuJica K., Hayashi K., Honjo A.,
Ishmar T., Inda T., Indo T., Kajihara M., Kanal K., Kashimoto K.,
Kimura S., Kitagawa M., Makino K., Masuda S., Miki T., Mizobuchi K.,
Mori H., Moromura K., Nakamura Y., Nashimoto H., Nishio Y., Saito N.,
Sampei G., Seki Y., Tagami H., Takemoto K., Wada C., Yamamoto Y.,
Yano M., Horiuchi T.;
A 718-kb DNs sequence of the Escherichia coli K-12 genome
corresponding to the 12.7-28.0 min region on the linkage map.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

MEDLINE-21074935; PubMed=11206551;

Perna N.T., Plunkett G. III, Burland V., Mau B., Glasner J.D.,

Rose D.J., Mayhew G.F., Evans P.S., Gregor J., Kirkpatrick H.A.,

Groffal G., Hackett J., Kilnk S., Boutin A., Shao Y., Miller L.,

Grotbeck E.J., Davis N.W., Lim A., Dimalanta E.T., Potamousis K.,

Apodaca J., Anantharaman T.S., Lin J., Yen G., Schwartz D.C.,

Melch R.A., Blattner F.R.;

"Genome sequence of enterchaemorrhagic Escherichia coli O157:H7.";

Nature 409:529-533 (2001).
Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J., Mau B., Shao Y.;
"The complete genome sequence of Escherichia coli K-12.";
Science 277:1453-1474(1997).
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SEQUENCE 5.001; STRAIN=KIZ / MG1655;
Kim K., Allen B., Araujo R., Aparicio A.M., Botstein D.,
Cherry M., Chung E., Dietrich F., Duncan M., Federspiel N.,
Kalman S., Komp C., Lashkari D., Lew H., Lin D., Namath A.,
Cefner P., Davis R.;
Submitted (JUL-1995) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SPECIES=S.flexneri; STRAIN=301 / Serotype 2a;
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SEQUENCE FROM N.A.
                 НАРРРУКОФЕГРРРООФЕННАРРУКОФЕПНРРРУКОФЕНТРРУКОФЕННЭРКОФЕГННЭР
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16-OCT-2001 (Rel. 40, Last sequence update)
28-FRB-2003 (Rel. 41, Last annotation update)
6,7-dimethyl-8-ribityllumazine synthase (EC 2.5.1.9) (DMRL synthase)
[Lumazine synthase) (Riboflavin synthase beta chain).
RIBH OR MTH1390.
                 MEDLINE=22590274; PubMed=12704152; Mei J., Goldberg M.B., Burland V., Venkatesan M.M., Deng W., Fournier G., Mayhew G.F., Plunkett G. III, Rose D.J., Darling A., Schwartz D.C., Blattner F.R., Runyen-Janecky L.J., Zhou S., Schwartz D.C., Blattner F.R., "Complete genome sequence and comparative genomics of Shigella flexneri serctype 2a strain 2457F"; infect. Immun. 71:2775-2786(2003).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Electrophoresis 20:2181-2195(1999).
-!- SIMILARITY: BELONGS TO THE 4-HYDROXYBENZOYL-COA THIOESTERASE
FAMILY, STRONG, TO H.INFLUENZAE H10386.
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SPECIES=S.flexneri; STRAIN=2457T / ATCC 700930 / Serotype 2a;
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Archaea, Buryarchaeota, Methanobacteria, Methanobacteriales,
Methanobacteriaceae, Methanothermobacter.
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llarity 100.0%; Pred. No. 2.4e+02;
Conservative 0; Mismatches 0; Indels
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PIR; C90725; C90725.
PIR; D95576; D85576.
EccGene; EG11110; Y99C.
InterPro; IPR008272; 4HBCcA_thicst_RS.
InterPro; IPR006684; 4HBCcA_thicst_Re.
InterPro; IPR006684; Thicestr_Bupf.
Pfam; PF03061; 4HBT; 1.
TIGREMB; TIGROUSI; TIGROUSI; 1.
PROSITE; PS01028; 4HBCOA_THIOESTERASE; 1.
Hydrolase; Complete proteome.
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                                                                                                                                                                                                                                                                                                                       IDENTIFICATION BY MASS SPECTROMETRY.
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MEDLINE=99420866; PubMed=10493123;
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EMBL; AE000177; AAC73830.1; -.
EMBL; BO713; BAA35402.1; -.
EMBL; AE016757; AAM79288.1; -.
EMBL; AE005252; AAGS5072.1; -.
EMBL; AP002553; BAB34194.1; -.
EMBL; AE015086; AAM74298.1; -.
EMBL; AE015098; AAM7205.1; -.
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Best Local S:
Matches 4
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   SOURCE STANTANT STANTS SOURCE STANTS SOURCE STANTS SOURCE 
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MEDLINE-98049343; PubMed=9389475;
MIDLINE-98049343; PubMed=9389475;
MIDLINE-98049343; PubMed=9389475;
MIDLINE-98049343; PubMed=9389475;
MIDLINE-98049343; PubMed=97.7, Gwinn M., Hickey E.K., Peterson J.D.,
Michardson D.L., Kerlavage A.R., Graham D.E., Kyrpides N.C.,
Fleischmann R.D., Quackenbush J., Lee N.H., Sutton G.G., Gill S.,
MIXINDESS E.F., Dougherty B.A., MCKENDEW K., Adams M.D., Loffurs B.,
Peterson S., Reich C. I., Weidman J.F., McDonald L., Utterback T.,
Cotton M.D., Spriggs T., Artiach P., Kaine B.P., Sykes S.M.,
Mason T.M., D'Andrea K.P., Bowman C., Fujii C., Garland S.A.,
Mancher J.C.,
Venter J.C.,
Ketchum K.A., Dodson R.J., Gwinn M., Hickey E.K., Peterson J.D.,
Richardson D.L., Kerlavage A.R., Graham D.E., Kyrpides N.C.,
Fleischmann R.D., Quackenbush J., Lee N.H., Sutton G.G., Gill S.,
Krikness E.F., Dougherty B.A., McKenney K., Adams M.D., Loftus B.,
Peterson S., Reich C.I., McNeil L.K., Badger J.H., Glodek A., Zhou L.,
Overbeek R., Gocayne J.D., Weidman J.P., McDonald L., Utterback T.,
Cotton M.D., Spriggs T., Artiach P., Kaine B.P., Sykes S.M.,
Sadow P.W., D'Andrea K.P., Bowman C., Fujii C., Garland S.A.,
Mason T.M., Olsen G.J., Fraser C.M., Smith H.O., Woese C.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -1- FUNCTION: Riboflavin synthase is a bifunctional enzyme complex catalyzing the formation of riboflavin from 5-amino-6.(1-D)-ribityl-amino-2,4(1H,3H)-pyrimidinedione and L.3,4-dihydrohy-2-butanone-4-phosphate via 6,7-dimethyl-8-lumazine. The beta subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     16-0CT-2001 (Rel. 40, Created)
16-0CT-2001 (Rel. 40, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
6,7-dimethyl-8-ribityllumazine synthase (EC 2.5.1.9) (DMRL synthase)
(Lumazine synthase) (Riboflavin synthase beta chain).
                                                                                                                                                                                                                                                                                            "The complete genome sequence of the hyperthermophilic, sulphate-reducing archaeon Archaeoglobus fulgidus.";
Nature 390:364-370(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "The complete genome sequence of the hyperthermophilic, sulphate-reducing archaeon Archaeoglobus fulgidus.";
Nature 390:364-370(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95.0%; Score 19; DB 1; Length 140; 100.0%; Pred. No. 2.5e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TIGR, AF0586; -. Hypothetical proteome. Hypothetical protein, Complete proteome. SEQUENCE 140 AA; 16175 MW; D3B1FE3A62A05901 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Archaeoglobus fulgidus.
Archaea; Euryarchaeota; Archaeoglobi; Archaeoglobales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Archaeoglobaceae; Archaeoglobus
NCBI_TaxID=2234;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; AE001064; AAB90658.1; -. PIR; B69323; B69323.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity 100.0
Matches 4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 VAEF 5
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                                                                                                                                                                                                                                                                               Venter J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
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                                                                               SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

SMITH D.R., Doucettee Stamm L.A., Deloughery C., Lee H.-M., Dubois J.,

Andredge T., Bashizzadeh R., Blakely D., Cook R., Gilbert K.,

Aldredge T., Bashizzadeh R., Blakely D., Cook R., Gilbert K.,

Andredge T., Bashizzadeh R., Blakely D., Cook R., Gilbert K.,

Andredge T., Bashizzadeh R., Bier H., Pethier B., Qiu D.,

Spadafora R., Vicare R., Wang Y., Wierzbowski J., Gibson B.,

McDougall S., Shimer G., Goyal A., Pietrovski S., Church G.M.,

Daniels C.J., Mao J.-I., Raice P., Noelling J., Reeve J.N.;

Complete genome sequence of Methanobacterium thermoautotrophicum

deltahf functional analysis and comparative genomics.";

J. Bacteriol. 179:7135-7135 (1997)

I. FUNCTION: Riboflavin synthase is a bifunctional enzyme complex

acatalyzating the formation of riboflavin from S-amino-6 (1-D)-

ribityl-amino-2 4 (1H.3H) *Pprimidiaedione and L-3 4-dihydrohy-2-

butanone-4 phosphate via 6,7-dimethyl-8-lumazine. The beta subunit

catalyzes the condensation of S-amino-6 (1-D)-ribityl-lumazine =

riboflavin + 4-(1-D-ribitylamio) -S-amino-2,6-dihydroxypyrimidine.

2.4 (1H.3H) *Pyrimidiaedione with L.3.4-dihydrohy-2-butanone-4-

phosphate yielding 6,7-dimethyl-8-lumazine (By similarity).

I. PATHWAY: Riboflavin biosynthesis; last step.

I. PATHWAY: Riboflavin biosynthesis; last step.

I. SIMILARITY: Belongs to the DMEL synthase family.

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STRAIN=VC-16 / DSM 4304 / ATCC 49558;
MEDLINE=98049343; PubMed=9389475;
Klenk H.-P., Clayton R.A., Tomb J.-F., White O., Nelson K.E.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 95.0%; Score 19; DB 1; Length 139; Best Local Similarity 100.0%; Pred. No. 2.5e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Riboflavin biosynthesis, Transferase, Complete proteome.
SEQUENCE 139 AA; 15464 MW; B640D8D12EE2A862 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Archaea; Euryarchaeota; Archaeoglobi; Archaeoglobales;
Archaeoglobaceae; Archaeoglobus.
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16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Hypothetical protein AF0586.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HAMAP; ME 00178; -; 1.
InterPro; IPR002180; DNRL_synthase.
Pfam; PR0085; DNRL_synthase; 1.
ProDom; PD003664; DNRL_synthase; 1.
TIGRPAMS; TIGR00114; xIDH; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AE000902; AAB85867.1; -.
PIR; A69052; A69052.
HSSP; P11998; 1RVV.
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         NCBI_TaxID=187420;
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86_ARCFU
_YS86_ARCFU
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Gaps

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EMBL; M76567; AAA73097.1; -
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Query Match
Best Local Similarity 100...
Best A; Conservative
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                                                                                                                                                                                                                                                                                            2 VAEF 5
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                                                                                                                                                                                                                                                                                                                                                        RESULT 24
CLM4_MOUSE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
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Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN=ATCC 43049;
MEDLINE=20396344; PubMed=10937989;
BAD N. Missen P., Hansen J., Moore P.B., Steitz T.A.;
"The complete atomic structure of the large ribosomal subunit at 2.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A resolution.";
Science 289:905-920(2000).
-!- SIMILARITY: Belongs to the L13P family of ribosomal proteins.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
MEDLINE=921051119; PubMed=1840597;
MEDLINE=921051119; E.;
"Halobacterial S9 operon. Three ribosomal protein genes are cotransaribled with genes encoding a tRNA[Leu], the enclase, and putetive membrane protein in the archaebacterium Haloarcula (Halobacterium) marismortui.";
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                                                                                                                                                                                                                                                                               Probom; PD003664; DWEL synthase; 1.
TIGREAMS; TIGR00114; rlbH; 1.
Ribclavin biosynthesis; Transferase; Complete proteome.
SEQUENCE 143 AA; 15645 MW; BBA3141206905410 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-DEC-1992 (Rel. 24, Created)
01-DEC-1992 (Rel. 24, Last sequence update)
01-DEC-1992 (Rel. 24, Last sequence update)
15-MAR-2004 (Rel. 43, Last annotation update)
508 ribosomal protein L13P (Hmal13).
RPL13P.
Haloaccula marismortui (Halobacterium marismortui).
Archaea: Euryarchaeotu; Halobacteria; Halobacteriaceae; Halobacteriaceae; Halobacteria?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               145 AA.
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X-RAY CRYSTALLOGRAPHY (2.4 ANGSTROMS).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Biol. Chem. 266:24573-24579(1991).
                                                                                                                                                                                                                                           HAMAP; MF 00178; -; 1.
InterPro; IPR002180; DMRL synthase.
Pfam; PP00885; DMRL_synthase; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                             EMBL; AE000957; AAB89124.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                         PIR; H69515; H69515.
HSSP; P11998; 1RVV.
TIGR; AF2128; -
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SEQUENCE FROM N.A.

STAIN=CSTBL/60; PubMed=11217851;

Rawai J., Shinadawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,

Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,

Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,

A saito T., Okazaki Y., Golobori T., Bono H., Kamkwa T., Saito R.,

Radota K., Matsuda H.A., Ashburner M., Baralov S., Casavant T.,

Rielschmann W., Gaasterland T., Gissi C., King B., Kochiwa H.,

Rielschmann W., Gaasterland T., Gissi C., King B., Kochiwa H.,

Ruchl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,

Schriml L.M., Staubli F., Suzuki R., Tomita M., Washio T.,

Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,

Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,

Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,

Ruch P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,

Sasaki H., Sato K., Schoenbach C., Shibata Y., Storch K.-F.,

Nordone P., Ring B., Ringwald M., Redriguez I., Sakamoto N.,

Suzuki H., Toyo-oka K., Wang K., Waitz C., Whittaker C., Wilming L.,

Nymshaw-Bonis A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,

Nymshaw-Bonis A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
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modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
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"DD112, a novel mouse gene implicated in the early stage of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 19; DB 1; Length 145; Pred. No. 2.6e+02;
                                                                                                                                                                                                                                                                                               R PIR, 1841115; AAT715.

R PDB; IRKN, 26-SEP-01.

R PDB; IKRN, 19-JUL-02.

R PDB; IKNN, 19-JUL-02.

R PDB; IKNN, 19-JUL-02.

R PDB; IKNN, 23-AUG-02.

R PDB; IMNO; 06-SEP-02.

R INTERPO; IPRO05325; Ribosomal_L13.

R PRO0575; Ribosomal_L13; I.

R PROSITE; RSD00783; RIBOSOMAL_L13; I.

R RADOSOMAL PRO0617; L13-A E; I.

R RADOSOMAL PROCEDE, RESOURCE IN SERVICE SERVICE IN SERVICE IN SERVICE IN SERVICE IN SERVICE IN SERVICE SERVICE IN SERVICE IN SERVICE IN SERVICE SERVICE IN SERVICE IN SERVICE IN SERVICE IN SERVICE SERVICE IN SERVICE IN SERVICE SERVIC
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16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Calmodulin 4 (Calcium-binding protein Dd112).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               95.0%; Sco...
100.0%; Pred. No. ...
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150 AA

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Proc. Natl. Acad. Sci. U.S.A. 99:984-989(2002).

-1- FUNCTION: Riboflavin synthase is a bifunctional enzyme complex catalyzing the formation of riboflavin from 5-amino-6-(1'-D)-ribityl-amino-2,4(1H,3H)-pyrimidinedione and L.3,4-dihydrohy-2-butanone-4-phosphate via 6,7-dimethyl-8-lumazine. The beta subunit catalyzes the condensation of 5-amino-6-(1'-D)-ribityl-amino-2,4(1H,3H)-pyrimidinedione with L.3,4-dihydrohy-2-butanone-4-phosphate yielding 6,7-dimethyl-8-lumazine (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10-OCT-2003 (Rel. 42, Created)
10-OCT-2003 (Rel. 42, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
6,7-dimethyl-8-ribityllumazine synthase (EC 2.5.1.9) (DWRL synthase)
RIBH OR PAR3296 (Riboflavin synthase beta chain).
                                                                                                                                                                                                                                                                                                                                                        "Genome sequence of the hyperthermophilic crenarchaeon Pyrobaculum aerophilum.",
                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
STRAIN=IM2 / ATCC 51768 / DSM 7523;
MEDLINE=21664397; PubMed=11792869;
Fitz-Gibbon S.T., Ladner H., Kim U.-J., Stetter K.O., Simon M.I.,
                                                                                                                                                                                                    Pyrobaculum aerophilum.
Archaea; Crenarchaecta; Thermoprotei; Thermoproteales;
Thermoproteaceae; Pyrobaculum.
                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best_Local Similarity
Matches 4; Conserv
               115 VAEF 118
                                                                                                                                                                                                                                                       NCBI_TaxID=13773;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8 VAEF 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2 VAEF 5
                                                                                                                                                                                                                                                                                                                                            Miller J.H.;
                                                                                        PYRAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
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SODC PRIGE
                                                           RESULT 26
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                         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pyrococcus wossei.
Archaea; Buryarchaeota; Thermococci; Thermococcales; Thermococcaceae;
Pyrococcus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Zwickl P., Fabry S., Bogedain C., Haas A., Hensel R., "Glyceraldehyde-3-phosphate dehydrogenase from the hyperthermophilic archaebacterium Pyrococcus woesei: characterization of the enzyme, cloning and sequencing of the gene, and expression in Escherichia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                       EF-HAND 1 (POTENTIAL).
EF-HAND 2 (POTENTIAL).
EF-HAND 3 (POTENTIAL).
E -> V (IN REF. 2; BAB22914).
N -> V (IN REF. 2; BAB22914).
VEN -> I (IN REF. 1).
W, ZAE22BC738ADZF9D CRC64;
-!- SIMILARITY: Contains 3 EF-hand calcium-binding domains.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 100.0%; Pred. No. 2.6e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-FEB-1991 (Rel. 17, Created)
01-FEB-1991 (Rel. 17, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Hypothetical protein in GAPDH 3'region (ORF X) (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           95.0%; Score 19; DB 1; Length 148; 100.0%; Pred. No. 2.6e+02; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         148 AA; 15256 MW; 8C7E51A072DF5D50 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             J. Bacteriol. 172:4329-4338(1990).
PIR, S10655, S10655.
NOM TER.
SEQUENCE 148 AA, 15256 MW; 8C7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN=DSM 3773;
MEDLINE=90330536; PubMed=2165475;
                                                                                                                                                                                                      HSSP; P02599; 1CDM.

MDD; MGI:1931464; Calmd.

InterPro; IPR00126; EF-hand.

InterPro; IPR001125; Recoverin.

PERM; PR0036; EF-hand; 4.

PRINTS; PR00450; RECOVERIN.

ProDom; PD000012; EF-hand; 2.

SMART; SM00054; EF); 4.

POSTITE; PS00018; EF, HAND; 3.

Calcium-binding; Repeat.
                                                                                                                                             EMBL, AB036744; BAA95412.1; -- EMBL, AK009956; BAB26608.1; -- EMBL, AK009664; BAB26425.1; -- EMBL, AK003648; BAB22914.1; --
                                                                                                                                                                                                                                                                                                                                                                                                                                               148 AA; 16767 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity 100.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 VAEF 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10 VAEF 13
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CA BIND
CA BIND
CONFLICT
CONFLICT
CONFLICT
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    95.0%; Score 19; DB 1; Length 150; 100.0%; Pred. No. 2.6e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                     Riboflavin biosynthėsis; Transferase; Complete proteome.
SEQUENCE 150 AA; 16474 MW; 73751C1363A8ADBD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (Rel. 12, Created)
(Rel. 12, Last sequence update)
(Rel. 42, Last annotation update)
                                                                                                                                                                                                                                                                HAMAP; MF_00178; -; 1
InterPro; TPR002180; DMRL_synthase.
Pfam, PF00885; DMRL_synthase; 1.
ProDom; PD003664; DMRL_synthase; 1.
TIGRFAMS; TIGR00114; rIbH; 1.
                                                                                                                                                                                                                               EMBL; AE009923; AAL64819.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4; Conservative
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01-OCT-1989 (
10-OCT-2003 (
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P11418;
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Gaps

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2 VAEF 5

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PCP HARIN
PCP HARIN
AC P1032
DT 01-MA
DT 01-NO
DT 10-OC
DE COTES
GN HAREN
OC PRETE
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                                                                                                                                                                        -1- FUNCTION: Destroys radicals which are normally produced within the cells and which are toxic to biological systems.
-1- CATALYTIC ACTIVITY: 2 superoxide + 2 H(+) = O(2) + H(2)O(2).
-1- COFACTOR: Binds 1 copper ion and 1 zinc ion per subunit.
                                                                                                MEDLINE-89290032; PubMed-2500367;
Calabrese L., Polticelli F., O'Neill P., Galtieri A., Barra D.,
Schinina M.E., Bossa F.;
"Substitution of arginine for lysine 134 alters electrostatic
parameters of the active site in shark Cu, Zn superoxide dismutase.";
FEBS Lett. 250:49-52(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10-OCT-2003 (Rel. 42, Created)
10-OCT-2003 (Rel. 42, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
6,7-dimethyl-8-ribityllumazine synthase (RC 2.5.1.9) (DWRL synthase)
(Lumazine synthase) (Riboflavin synthase beta chain).
Superoxide dismutase [Cu-Zn] (EC 1.15.1.1).
Prionace glauca (Blue shark).
Rakaryotca, Metazoa; Chordata; Craniata; Vertebrata; Chondrichthyes; Elasmobranchii; Galeonorphii; Galeoidea; Carcharhiniformes; Carcharhinidae; Prionace.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
STRAIN=ATCC 35092 / DSM 1617 / P2;
MEDLINE=2133296; PubMed=11427726;
She Q., Singh R.K., Confalonieri F., Zivanovic Y., Allard G.,
Awayez M.J., Chan-Weiher C.C.-Y., Clausen I.G., Curtis B.A.,
Awayez M.J., Chan-Weiher C.C.-Y., Clausen I.G., With B.A.,
Heikamp-de Jong I., Jeftcher C., Gordon P.M.K.,
Heikamp-de Jong I., Jeftries A.C., Kozera C.J., Medina N., Peng X.,
Thi-Ngoc H.P., Redder P., Schenk M.E., Theriault C., Tolstrup N.,
Charlebois R.L., Doolittle W.F., Duguet M., Gaasterland T.,
                                                                                                                                                                                                                         -i- SUBUNIT: Homodimer.
-i- SUBCELLULAR LOCATION: Cytoplasmic.
-i- SUBURIARITY: Belongs to the Cu-Zn superoxide dismutase family.
PIR: SO4623: 504623.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sulfolobus solfataricus.
Archaea; Crenarchaeota; Thermoprotei; Sulfolobales; Sulfolobaceae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 152;
                                                                                                                                                                                                                                                                                      InterPro; IPR001424; SOD_CU_ZN.
Pfam; PF00080; sodcu; 1.
PRINTS; PR00068; CUZNDISWTASE.
PODOMO469; SOD_CU_ZN; 1.
PROSITE; PS00037; SOD_CU_ZN; 1.
PROSITE; PS00332; SOD_CU_ZN_2; 1.
Antioxidant; Oxidoreductase; Metal_binding; Copper; Zinc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BY SIMILARITY.
6617642A4F23C5AE CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 19; DB 1; Le
Pred. No. 2.7e+02;
                                                                                                                                                                                                                                                                                                                                                                                         COPPER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              95.0%; Scor.
100.0%; Pred. No.
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                                                                                                                                                                                                                                                                                                                                                                                                        61
69
78
81
118
55
152 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=2287;
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                                                                                       SEQUENCE
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METAL
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Garrett R.A., Ragan M.A., Sensen C.W., Van der Oost J.;
"The complete genome of the crenarchaeon Sulfolobus solfataricus P2.";
Proc. Natl. Acad. Sci. U.S.A. 98:7835-7840(2001).

1- FUNCTION: Riboflavin synthase is a bifunctional enzyme complex catalyzing the formation of riboflavin from S-amino-6-(1.-D).

ribityl-amino-2.4 (1H.3H)-pyrimidinedione and L-3, 4-dihydrohy-2-butanone-4-phosphate via 6,7-dimethyl-8-lumazine. The beta subunit catalyzes the condensation of S-amino-6-(1.-D)-ribityl-amino-2,4 (1H.3H)-pyrimidinedione with L-3,4-dihydrohy-2-butanone-4-phosphate yielding 6,7-dimethyl-8-lumazine (By
                                                                                                                                                                                                                                                                                                                                                     similarity)
-!-CATALYTIC ACTIVITY: 2 6,7-dimethyl-8-(1-D-ribityl)lumazine =
    riboflavin + 4-(1-D-ribitylamino)-5-amino-2,6-dihydroxypyrimidine.
-!- PATHWAY: Riboflavin blosynthesis; last step.
-!- SIMILARITY: Belongs to the DWRL synthase family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SECUENCE FROM N.A. MEDAGE-2828309; MEDINE-8818138; PubMed-2828309; MEDINE-8818138; PubMed-2828309; MEDINE-8818138; Metcalf B.J., Finn C.W., Farley J.E., Green B.A.; Cloning of genes encoding a 15,000-dalton peptidoglycan-associated outer membrane lipoprotein an antigenically related 15,000-dalton J. Bacteriol. 170:489-498 (1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
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STRAINSEA ( 7W20 ) ATCC 51907;
STRAINSEA ( 7W20 ) PubMeda-7542800;
Fleischmann R.D., Adams M.D., White O., Clayton R.A., Kirkness E.F.,
Kerlavage A.R., Bult C.J., Tomb J.-F., Dougherty B.A., Merrick J.M.,
McKenney K., Sutton G., Fitzhugh W., Fields C.A., Gocayne J.D.,
Scott J.D., Shirley R., Liu L.-I., Glodek A., Kelley J.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAR-1989 (Rel. 10, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
10-OTT-2003 (Rel. 42, Last annotation update)
Outer membrane lipoprotein PCP precursor (15 kDa lipoprotein) (PAL cross-reacting lipoprotein).
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Pasteurellaceae; Haemophilus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 154;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 19; DB 1; Length 15%; Pred. No. 2.7e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TIGRFAMS; TIGR00114; rTbB; 1.
Riboflavin biosynthesis; Transferase; Complete proteome.
SEQUENCE 154 AA; 17247 MW; ADFA9E6A2C723210 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        95.0%; Scc...
100.0%; Pred. No. ...
0; Mismatches
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HAMAP; MF 00178; -; 1.
Interpro; IPR002180; DMRL synthase.
ProDom; PD003664; DMRL synthase; 1.
ProDom; PD003664; DMRL synthase; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
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Best Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
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Sulfolobus tokodaii
                                                                                                                                                                                          Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                              3 VAEF 6
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Matches
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                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its modified by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ô
Weidman J.F., Phillips C.A., Spriggs T., Hedblom E., Cotton M.D., Utterback T.R., Hanna M.C., Nguyen D.T., Saudek D.M., Brandon R.C., Fine L.D., Fritchman J.L., Fuhrmann J.L., Geoghagen N.S.M., Genem C.L., McDonald L.A., Small K.V., Fraser C.M., Smith H.O., Venter J.C., "Whole-genome random sequencing and assembly of Haemophilus influenzae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                   Science 269:496-512(1995).
-!- SUBCELLULAR LOCATION: Attached to the outer membrane by a lipid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta, Spermatophyta, Magnoliophyta, eudicotyledons, core eudicots, astericampanulids, Asterales, Asteraceae, Cichorioideae, Cichorieae, Taraxacum.
                                                                                                                                                                                                                                                                                                                                                                                            EMBL; M18877; AAA24938.1; -.
EEMBL; U32832; AAC23228.1; -.
PIR; I64130; 164130.
TIGR; H11579; -.
InterPro; IPR000437; Prok lipoprot S.
INTERPROSITE; PS00013; PROKAR IIPOPROTEIN; 1.
Outer membrane; Lipoprotein; Signal; Complete proteome; Palmitate.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N-palmitoyl cysteine.
S-diacylglycerol cysteine.
CSLVAEFVF - VAGRRVRI (IN REF. 1)
D7880327FCF0C985 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OUTER MEMBRANE LIPOPROTEIN PCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 155;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Xu X.-Y., Bewley J.D., Greenwood J.S.; Submitred (DEC-1997) to the EMBL/Gensank/DDBJ databases. -! ALLERGEN: Causes an allergic reaction in human. -:- SIMILARITY: Belongs to the BetVI family.
                                                                                                                                                                                        -!- SIMILARITY: TO B.COLI AND S.TYPHIMURIUM SLYB AND TO Y.ENTEROCOLITICA PCP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 19; DB 1; Le
Pred. No. 2.7e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          P_TAROF

RAP_TAROF

RAP_TAROF

STANDARD; PRT; 157 AA.
30-MAY-2000 (Rel. 39, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
15-MAY-2004 (Rel. 39, Last annotation update)
Root allergen protein (RAP).
Taraxacum officinale (Common dandelion).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              95.0%; Scc...
100.0%; Pred. No. ...
0; Mismatches
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19 155 OUT
19 19 19 S-d
135 143 CSI
155 AA; 15425 MW; D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. TISSUE=Root;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     138 VAEF 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=50225;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 VAEF 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CONFLICT
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DNA Res. 8:123-140(2001).

-!- FUNCTION: Riboflavin synthase is a bifunctional enzyme complex catalyzing the formation of riboflavin from 5-amino-6.(1'-D).

ribityl-amino-2,4(1H,3H)-pyrimidinedione and L-3,4-dinydrohy-2-butanone-4-phosphate via 6,7-dimethyl-8-lumazine. The beta subunit catalyzes the condensation of 5-amino-6-(1'-D) -ribityl-amino-2,4(1H,3H)-pyrimidinedione with L-3,4-dihydrohy-2-butanone-4-phosphate yielding 6,7-dimethyl-8-lumazine (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -1- CATALYTIC ACTIVITY: 2 6,7-dimethyl-8-(1-D-ribityl)lumazine = riboflavin + 4-(1-D-ribitylamino)-5-amino-2,6-dihydroxypyrimidine-
-1- PATHWAY: Riboflavin biosynthesis; last step.
-1- SIMILARITY: Belongs to the DWRL synthase family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN=JCM 10545 / 7;

MEDLINE=J456156; PubMed=11572479;

KRWARTBAGASGI Y., Hino Y., Horikawa H., Jin-no K., Takahashi M., Sekine M., Baba S., I., Ankai A., Kosugi H., Hosoyama A., Fukui S., Nagai Y., Nishijima K., Otsuka R., Nakazawa H., Takamiya M., Kato Y., Yoshizawa T., Tanaka T., Kudoh Y., Yamazaki J., Kushida N., Oguchi A., Aoki K.-I., Masuda S., Yanagii M., Nishimura M., Yamagishi A., Oshima T., Kikuchi H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10-OCT-2003 (Rel. 42, Created)
10-OCT-2003 (Rel. 42, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
6,7-dimethyl-8-ribityllumazine synthase (EC 2.5.1.9) (DMRL synthase)
(Lumazine synthase) (Riboflavin synthase beta chain).
RIBH OR ST0394.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Archaea; Crenarchaeota; Thermoprotei; Sulfolobales; Sulfolobaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                            95.0%; Score 19; DB 1; Length 157; 100.0%; Pred. No. 2.8e+02; Live 0; Mismatches 0; Indels
                                                                                                                 Pfam; PF00407; Bet v I; I.
PRINTS; PR00634; BETALLERGEN.
PROSITE; PS00451; PATHOGENESIS BETVI; 1.
Allergen; Plant defense; Pathogenesis related protein.
SEQUENCE 157 AA; 17040 MW; 5892AB8593ABA7E0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             157 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HAMAP; WF_00178; -; 1.
InterPro; IPR002190; DWRL synthase.
JEmn; PF00885; DWRL synthase; 1.
ProDom; PD003664; DWRL synthase; 1.
TIGRFAMS; TIGR00114; rIbH; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; AP000982; BAB65375.1; -.
EMBL; AF036931; AAB92255.1; -.
HSSP; O24248; 1E09.
                                                                     nterPro; IPR000916; Bet_v_I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STANDARD;
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Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
A manatides P.G., Scheers S.E., Ili P.W., Hoskins R.A., Galle R.E.,
George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.M.,
Beorge R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.M.,
Brandon R.C., Baxer E.G., Helt G., Nelson C.R., Miklos G.L.G.,
Abrill J.F., Abdayani A., An H.-J., Andrews-Feanmiscoch C., Baldwin D.,
Ballew R.M., Basu A., Baxendla G., Bayzaktarcglu L., Beasley E.M.,
Beeson K.Y., Benos P.V., Berman B.P. Bhandari D., Bolshakov S.,
Burtis K.C., Busam D.A., Buller H., Gadieu E., Center A., Chadra I.,
A Grievry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
Burtis K.C., Busam D.A., Buller H., Gadieu E., Center A., Dietz S.M.,
Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
A cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
A cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
A chorkova D., Bordellan A.B., Garg N.S., Gelbart W.M., Glasser K.,
A clock A., Goop F., Gorzell J.H., Gu Z., Renigon P., Retract C., Reriac T.S., Retchum K.A.,
A clock A., Goop F., Gorzell J.H., Gu Z., Kennigon J.A., Retchum K.A.,
A clock A., Goop F., Gorzell J.H., Gu Z., Kennigon J.A., Retchum K.A.,
A claids A., Goop F., Gorzell J.H., Gu Z., Kennigon J.A., Retchum K.A.,
A claid M., Marrey D.A., Hearlan T.C., Morris J., Moshrefi A.,
A claid M., Martey B., McIntosh T.C., Morris J., Moshrefi A.,
B hount S.M., Nelson K.A., Liu M. M., Nelson D.E.,
B hount S.M., Nelson K.A., Liu M. Wassern D.R., Parlat C.,
Siden Kiamos I.W., Nobarry C., Morris J., Moshrefi F., Smith T.,
Shue B.C., Siden Kiamos I., Simpson M., Skupski M.P., Smith T.,
Shue B.C., Siden Kiamos I., Sunder E., Wang S., San G.,
Wang Z.-Y., Wassarman D.A., Weinseched G.M., Weissenbach J.,
Weilliams S.M., Weinsey C.C., Throng W., Zhang G., Zhang S., Zhan M., Zhong G., Zhang L., Zhang L., Zhang L., Zhang L., Zhang L., Zhan
                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN=Oregon-R;
MEDLINE=87086754; PubMed=3098981;
Shore E.M., Guild G.M.;
"Larval salivary gland secretion proteins in Drosophila structural analysis of the Sgs-5 gene.";
J. Mol. Biol. 190:149-158(1986),
                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Drosophila melanogaster (Fruit fly).
Bukaryota, Metazoa; Arthropoda; Haxapoda; Insecta; Pterygota;
Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
Psphydroidea; Drosophilidae; Drosophila.
NCBI_TaxID=7227;
                                                                                                                                                     95.0%; Score 19; DB 1; Length 157; 100.0%; Pred. No. 2.8e+02; rative. 0; Mismatches 0; Indels
Riboflavin biosynthesis, Transferase, Complete proteome. SEQUENCE 157 AA; 17501 MW; 529558077E164A18 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             007071; OSVEIS, OSVEIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT; 163 AA.
                                                                                                                                                                                                       Best Local Similarity 100.0
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14 VAEF 17
                                                                                                                                                                                                                                                                                                                                                                   2 VAEF 5
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                                                       SEQUENCE
                                                                                                                                                           Query Match
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SSULT 32

D 5-DRONE

D 6-DRONE

D 6-DRONE

D 7-10-DRONE

D 7-1
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAINES SEG (7 AB972;
STRAINES SEG (7 AB972;
MEDLINE=97313264; PubMed=9169868;
Dietrich F.S., Malligan J.T., Hennessy K.M., Yelton M.A., Allen E.,
Araujo R., Aviles E., Berno A., Brennan T., Carpenter J., Chen E.,
Cherry J.M., Chung E., Duncan M., Guzman E., Hartzell G.,
Hunicke-Smith S., Hyman R.W., Kayser A., Komp C., Lashkari D., Lew H.,
Lin D., Mosedale D., Nakahara K., Namath A., Norgren R., Oefner P.,
Oh C., Petel F.X., Roberts D., Sehl P., Schramm S., Shogren T.,
Smith V., Taylor P., Wei Y., Bosetein D., Davis R.W.;
The nucleotide sequence of Saccharomyces cerevisiae chromosome V.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Melnick L., Sherman F.;
"The gene clusters ARC and COR on chromosomes 5 and 10, respectively, of Saccharomyces cerevisiae share a common ancestry.";
of Sascharomyces 133:372-388 (1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bukaryota, Fungi, Ascomycota, Saccharomycotina, Saccharomycetes,
Saccharomycetales, Saccharomycetaceae, Saccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                              95.0%; Score 19; DB 1; Length 163; 100.0%; Pred. No. 2.9e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                            SIGNAL 1 18 POTENTIAL.
CHAIN 19 163 SALIVARY GLUE PROTEIN SGS-5.
SEQUENCE 163 AA; 18821 MW; 3A476FID3B06D864 CRC64;
Gibbs R.A., Myers E.W., Rubin G.M., Venter J.C., "The genome sequence of Drosophila melanogaster."; Science 287:2185-2195(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-0CT-1993 (Rel. 27, Created)
01-0CT-1993 (Rel. 27, Last sequence update)
10-0CT-2003 (Rel. 42, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          UTRS protein (Unknown transcript 5 protein). UTRS OR YEL035C OR SYGP-ORF27.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Saccharomyces cerevisiae (Baker's yeast).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=94016558; PubMed=8411151;
                                                                                                                                                                                                                                                                           EMBL, AE003718, AAF55436.1, -. PIR, A24504, A24504.
FlyBase; FBgn0003375; Sgs5.
                                                                                                                                                                                                                                                         EMBL; X04269; CAA27820.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity 100.0
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nature 387:78-81(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                           Signal.
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
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172 AA

STANDARD;

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BFL1 MOUSE
Q07440;
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                                                                                                  MSRYGKNLVHYIIVEHDDOR -> MRDSNVKISVFPCALYN
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                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=22735913; PubMed=12835416;
MEDLINE=22735913; PubMed=12835416;
Glockner F.O., Kube M., Bauer M., Teeling H., Lombardot T.,
Ludwig W., Gade D., Beck A., Borzym K., Heitmann K., Rabus R.,
Schleener H., Amann R., Reinhardt R.;
"Complete genome sequence of the marine planctomycete Pirellula sp.
Brrain I., i,
Brrain I., Acad. Sci. U.S.A. 100:8298-8303(2003).
-!- FUNCTION: This protein is essential for replication of the Chromosome. It is also involved in DNA recombination and repair (By similarity).
-!- SIMILARITY: Contains 1 SSB domain.
                                                                                                                                                                                                                                                                                                                          P59932; Q7UKV3;
15-MAR-2004 (Rel. 43, Created)
15-MAR-2004 (Rel. 43, Last sequence update)
15-MAR-2004 (Rel. 43, Last annotation update)
Single-errand binding protein (SSB) (Helix-destabilizing protein)
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0
                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                            SSB OR RB9917.
Rhodopirellula baltica.
Bacteria; Planctomycetes; Planctomycetacia; Planctomycetales;
Planctomycetaceae; Pirellula.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROSITE; PS50935; SSB; 1.
DNA-binding; DNA repair; DNA replication; Complete proteome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              95.0%; Score 19; DB 1; Length 169; 100.0%; Pred. No. 3e+02; iive 0; Mismatches 0; Indels
                                                                                                                                                             95.0%; Score 19; DB 1; Length 166; 100.0%; Pred. No. 2.9e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18108 MW; AA8F93E0FA51F287 CRC64;
                                                                                                                   RGNTIIN (IN REF. 1).
A58EE8DOFA6D3DEA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        POLY-GLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; BX294150; CAD76529.1; -.
                                                                                                                                  166 AA; 19335 MW;
EMBL; L22173; AAA34936.1; -.
EMBL; S6564; AAD13970.1; -.
EMBL; S66120; AAB28442.1; -.
EMBL; U18779; AAB65007.1; -.
PIK; S50509; S50509.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4; Conservative
                                                                                                                                                                                               Conservative
                                                                                                       20
                                                                                        SGD; S0000761; UTR5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         113 1
169 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                                         Query Match
Sest Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                       92 VAEF 95
                                                                                                                                                                                                                          2 VAEF 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DOMAIN
SEQUENCE
                                                                                                                                   SEQUENCE
                                                                                                        CONFLICT
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2 VAEF 5 |||| 8 VAEF 31

SSULT 35

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"Multiple gene duplication and expression of mouse bcl-2-related
genes, Al.";
Int. Immunol. 10:631-637(1998).

"Int. Immunol. 10:631-637(1998).

"Int. Immunol. In the response of hemopoietic cells to external signals
function in the response of hemopoietic cells to external signals
and in maintaining endothelial survival during infection.

"SUBCELLULAR LOCATION: Intracellular.

"INDICATION: By granulocyte-macrophage colony-stimulating factor
and LPS in macrophages.

"INDICATION: By granulocyte-macrophage colony-stimulating factor
and LPS in macrophages.

"INDICATION: By Blongs to the Bcl-2 femily.

"INDILARITY: Belongs to the Bcl-2 femily.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                  Lin E.Y., Orlofsky A., Berger M.S., Prystowsky M.B.; "Characterization of Al, a novel hemopoietic-specific early-response gene with sequence similarity to bcl-2."; J. Immunol. 151:1979-1988 (1993).
01.FEB-1995 (Rel. 31, Created)
01.FEB-1995 (Rel. 31, Last sequence update)
01.FEB-1995 (Rel. 31, Last sequence update)
861-2.relege protein Al (BFL-1 protein) (Hemopoietic-specific early response protein) (Al-A).
861-2.FEB-010 (Al-A).
861-2.FEB-010 (Al-A).
                                                                                                                                                                                                  Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .
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SEQUENCE FROM N.A.
TISSUE=Liver;
MEDLINE=98307518; PubMed=9645611;
Harakeyama S., Hamasaki A., Negishi I., Loh D.Y., Sendo F.,
Nakayama K., Nakayama K.-I.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           95.0%; Score 19; DB 1; Length 172; 100.0%; Pred. No. 3e+02; cive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24 33 ALA/PRO-RICH.
77 97 8H1.
132 147 BH2.
172 AA; 19914 MW; 37AD35818E756488 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ALA/PRO-RICH.
BH1.
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EMBL; U23774; AAB97953.1; -.
EMBL; U23773; AAB97953.1; JOINED.
PIR; 149449; I49449.
HSSP; Q07817; IMAZ.
MMD; MGI:102687; BG12ala.
InterPro; IPR00012; BG12_Hamily.
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PROSITE; PS50062; BCL2 FAMILY; 1.
PROSITE; PS01080; BH1; 1.
PROSITE; PS01258; BH2; 1.
Apoptosis.
                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN-CBA/J; TISSUE-Bone marrow; MEDLINE-93346743; PubMed-8345191;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                   NCBI_TaxID=10090;
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"GRS, a novel member of the Bcl-2 gene family, is highly expressed in multiple cancer cell lines and in normal leukocytes."; Oncogene 14:997-1001(1997).
                                                                                                                                                   016548; Q99524;
01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
15-MAR-2004 (Rel 43, Last sequence update)
Bcl-2-related protein Al (BFL-1 protein) (Hemopoietic-specific early
response protein) (GRS protein).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDIINE=96068895; PubMed=7478596; Choi S.S., Park I.-C., Yun J.W., Sung Y.C., Hong S.-I., Shin H.-S.; Choi S.S., Park Elaced gene, Bf1-1, is overexpressed in stomach cancer and preferentially expressed in bone marrow."; Oncogene 11:1693-1698(1995).
                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE=Umbilical vein,
MEDLINE=96184764; PubMed=8605321;
Karsan A., Yee B., Kaushansky K., Harlan J.M.,
"Cloning of human Bel-2 homologue: inflammatory cytokines induce
human Al in cultured endothelial cells.",
Blood 87:3089-3096 (1996).
                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=97203281; PubMed=9050999;
Kenny נֵיֵל., Knobloch T.J., Augustus M., Carter K.C., Rosen C.A.,
                                                                                                                                      175 AA
                                                                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                 Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
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                                    122 VAEF 125
                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9606;
2 VAEF 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SSUE=Skin;
                                                                                                                                      BFL1 HUMAN
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-!- SUBCELLULAR LOCATION: Intracellular.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
-i- TISSUE SPECIFICITY: Seems to be restricted to the hematopoietic compartment. Expressed in peripheral blood, spleen, and bone marrow, at moderate levels in lung, small intestine and testis, at a minimal levels in other tissues. Also found in vascular smooth muscle cells and hematopoietic malignancies.
-i- INDUCTION: By phorbol ester and inflammatory cytokines, such as TNF-alpha, or IL-1-beta, but not by growth factors.
-i- SIMILARITY: Contains 1 Bcl-2 homology 1 (BH1) domain.
-i- SIMILARITY: Belongs to the Bcl-2 family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Differences in the regulation of messenger RNA for housekeeping and specialized-cell ferritin. A comparison of three distinct ferritin complementary DNAs, the corresponding subunits, and identification of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE-87222424; PubMed=3495534;
Dickey L.F., Sreedharan S., Theil E.C., Didsbury J.R., Wang Y.-H.,
Kaufman R.E.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P07794, 01.704-1988 (Rel. 08, Created) 01.704-1988 (Rel. 08, Last sequence update) 01.704-1988 (Rel. 04, Last annotation update) 10.0CT-2003 (Rel. 42, Last annotation update) 0.707-1071 middle subunit (Ferritin M) (Ferritin X) (Ferritin H').
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ferritin, middle subunit (Ferritin M) (Ferritin X) (Ferritin H').
Rana catesbelana (Bull frog).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Rana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  95.0%; Score 19; DB 1; Length 175; 100.0%; Pred. No. 3.1e+02; tive 0; Mismatches 0; Indel8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24 33 ALA/PRO-RICH.
77 97 BH1.
132 147 BH2.
72 72 N -> T (IN REF. 3).
107 107 O -> H (IN REF. 3).
175 AA, 20132 MW, 329998AF2BE07AOD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MIM; 601056; -.
GO; GO:0008189; F:apoptosis inhibitor activity; TAS.
GO; GO:0006916; P:anti-apoptosis; TAS.
InterPro; IPR00712; BC12_BH.
InterPro; IPR02475; BC12_Family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT; 176 AA.
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BH1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE; PS50062; BCL2 FAMILY; 1.
PROSITE; PS01080; BH1; 1.
PROSITE; PS01258; BH2; 1.
                                                                                                                                                                                                                                                                                                                                             EMBL; U29680; AAC50438.1; -.
EMBL; U2747; AAC50288.1; -.
EMBL; CAA70566.1; -.
EMBL; BC016281; AAH16281.1; -.
PIR; I39055; I39055.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       HGNC:991; BCL2A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pfam, PF00452, Bcl.
SMART, SM00337, BCL
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           122 VARF 125
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                                                                                                                                                                                                                                                                                                                                                                                                                                             Genew; How
Tw. 601056;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FRIZ RANCA
ID FRIZ RANCA
AC P07798;
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DOMAIN
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RESULT 39
DSBB_PASMU
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                                                                                                                                                                                                                                                                                                                 -!- SIMILARITY: Belongs to the ferritin family.
-!- SIMILARITY: Concains 1 ferritin-like diiron domain.
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                                                                         MEDLINE=99367924; PubMed=10493069;
Ha Y., Shi D., Small G.W., Theil B.C., Allewell N.M.;
"Crystal atructure of builifrog M ferritin at 2.8 A resolution:
"Crystal structure of builifrog mid-resolution at analysis of subunit interactions and the binuclear metal center.";
J. Biol. Inorg. Chem. 4:243-256(1999)
-!- FUNCTION: Ferritin is an intracellular molecule that stores iron in a soluble, nontoxic, readily available form. The functional molecule, which is composed of 24 chains, is roughly spherical and contains a central cavity into which the polymeric ferric iron
                                                                                                                                                                                                                                                     core is deposited.
-!- MISCELLANEOUS: THERE ARE THREE TYPES OF FERRITIN SUBUNITS: L, M
AND H CHAINS IN AMPHIBIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
95.0%; Score 19; DB 1; Length 176;
Best Local Similarity 100.0%; Pred. No. 3.1e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20592 MW; A9F0F5BEB8584D46 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      X-RAY CRYSTALLOGRAPHY (2.8 ANGSTROMS).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PDB; IMFR; 22-JUN-99.
InterPro; IPR001319; Ferritin.
InterPro; IPR00331; Ferritin Dps.
InterPro; IPR009040; Ferritin like.
the first processed in amphibia."; J. Biol. Chem. 262:7901-7907(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LIKE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ProDom; PD000971; Ferritin; 1.
PROSITE; PS00540; PERRITIN 1; 1.
PROSITE; PS00204; PERRITIN 2; 1.
PROSITE; PSS0905; PERRITIN LIKE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; J02724; AAA49525.1; -. PIR; C27805; C27805.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam, PF00210; ferritin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            176 AA;
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STRAND
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.

STRAIN=MB4 / JCM 11007;

MEDLINE=21992816; PubMed=11997336;

Bao Q., Tian Y., Li W., Xu Z., Xuan Z., Hu S., Dong W., Yang J.,

Chen Y., Xue Y., Xu Y., Lai X., Huang L., Dong X., Ma Y., Ling L.,

Than H., Chen R., Wang J., Yu J., Yang H.;

"A complete sequence of T. tengcongensis genome.";

Genome Res. 12:689-700(2002).

-I. SIMILARITY: Belongs to the L10P family of ribosomal proteins.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
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Q9L6B3; P57804;
16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
28-PEB-2003 (Rel. 41, Last annotation update)
Disulfide bond formation protein B (Disulfide oxidoreductase).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bacteria; Proteobacteria; Gammaproteobacteria; Pasteurellales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
Fuller T.E., Kennedy M.J., Lowery D.B.;
Identification of Pasteurella multocida virulence genes in a septicemic mouse model using signature-tagged mutagenesis.";
Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                              Thermoanaerobacter tengcongensis.
Bacteria: Firmicutes; Clostridia; Thermoanaerobacteriales;
Thermoanaerobacteriaceae; Thermoanaerobacter.
WGDI_TaxID=119072;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   95.0%; Score 19; DB 1; Length 177; 100.0%; Pred. No. 3.1e+02; ative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HAMAP, MF_00362; -; 1.
InterPro; TR0001790; Ribosomal_L10.
InterPro; TR002363; Ribosomal_L10eub.
Pfam; PF00466; Ribosomal_L10; 1.
PROSITE; PS01109; RIBOSOMAL_L10; FALSE_NEG.
Ribosomal_Protein; Complete proteome.
SEQUENCE 177 AA; 19591 MW; 50DDCF896EF6F4E8 CRC64;
QBR7U4;
28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
50S ribosomal protein L10.
RPLJ OR TTE2304.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; AE013173; AAM25445.1; -.
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(1) Pasteurellaceae; Pasteurella.
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Best Local Similarity 100....
Best Local 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pasteurella multocida.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 VAEF 5
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Gaps

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177 AA.

PRT;

STANDARD;

RESULT 38
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us-09-594-978a-1.rsp

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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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MEDLINE=89231619; PubMed=2540957;
MEDLINE=89231619; PubMed=2540957;
MEDLINE=89231619; Tietze K., Campos-Ortega J.A.;
"Closely related transcripts encoded by the neurogenic gene complex enhancer of split of Drosophila melanogaster.";
EMBO J. 8:203-210(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; AF237925; AAF68411.1; -
EMBL; AE066038; AAK02130.1; -
InterPro; IPR003752; Dsbs.
Pfam; PF02600; Dsbs.
Pfam; PF02600; Dsbs.
Chaperone; Transmembrane; Interpro; Transport; Blectron transport;
Chaperone; Transmembrane; Interpro; Transport; DoMAIN
DOMAIN
15 31 POTENTIAL.
TRANSMEM 15 31 POTENTIAL.
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MEDLINE=20196006; PubMed=10731132;
Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F.,
George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
                                                                                   similarity).
SUBCELLULAR LOCATION: Integral membrane protein, Inner membrane
FUNCTION: Required for disulfide bond formation in some periplasmic proteins. Acts by oxidizing the dsbA protein (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
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Bukaryota; Metazoa; Arthropoda; Haxapoda; Insecta; Pterygota;
Bukaryota; Budopterygota; Diptera; Brachycera; Muscomorpha;
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REDOX-ACTIVE (BY SIMILARITY). REDOX-ACTIVE (BY SIMILARITY). D2C45BB73B31F0BC CRC64;
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PERIPLASMIC (POTENTIAL).
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                                                                                                                                                                       (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          POTENTIAL.
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178 AA;
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Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D., Abril V.P., Aghayari A., An H.-J., Andrews-Pfannkoch C., Baldwin D., Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M., Beros P.V., Berman B.P., Bhandari D., Bolabakov S., Berker B., Borker B., Brottier P., Bablos B., Delcher A., Deng Z., Mays A.D., Dew I., Dietz S.M., Abellos R., Doup L.B., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P., Brottier S., Dourbin K.J., Evangeliste C.C., Ferrac C., Ferriera S., Fleischmann W., Rarnegeliste C.C., Ferrac C., Ferriera S., Fleischmann W., Alorie N., Harvig D.M., Hahman T.J., Harring M., Alouston K.A., Hahman T.J., Harring M., Alouck J., Houston K.A., Hawland T.J., Wel M.-H., Ibouck J., Alankin B.L., Kalush F., Karpen G.H., Ke Z., Kennison J.A., Ketchum K.A. Isako P., Lei Y., Leviteky A.A., Li J.H., Li Z., Liang Y., Lin X., Liakov P., Lei Y., Leviteky A.A., Li J.H., Li Z., Liang Y., Lin X., Mattei B., McIntosh T.C., McIeod M.P., Mobhrerson D.L., Ra Falazzon M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G., Ra Sharer K., Remington K., Sanders R., Nurshy B., Murphy L., Muzry D.M., Nelson D.L., Ra Shue B.C.; Siden-Kiamos I., Simpson M., Skupski M.P., Sunt Y., Sanith T., Spier R., Spier E., Spradling A.C., Turner R., Venter E., Wang A.H., Wang Z.-Y., Wassarman D.A., Weinstock G.M., Weissenbach J., Ra Williams S.M., Woodage T., Worley C., Wang A.H., Wang S., Wang Z.-Y., Wassarman D.A., Weinstock G.M., Wang S., Zhao G., Zhao M., Zhan M., Zhan G., Zhao G., Zhao G., Zhao M., Zhan M., Zhu S., Zhao G., Zhao G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its mes by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDINE-95094252; PubMed=8001118; Paroush Z., Finley R.L. Jr., Kidd T., Wainwright S.M., Ingham P.W., Paroush Z., Finley R.L. Jr., Kidd T., Wainwright S.M., Ingham P.W., Inst-Horowicz D.; Ish-Horowicz D.; "Groucho is required for Drosophila neurogenesis, segmentation, and sex determination and interacts directly with hairy-related bHLH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -1- SIMILARITY: Contains 1 basic helix-loop-helix (bHLH) domain.
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EMBL; AE003754; AAF56552.1; -.
PIR; S03629; S03629.
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Gaps

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SEQUENCE

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STRAIN=3500NP ATCC 700724;

B. Munson R.S. Jr., Ray W.C., Mahairas G., Sabo P., Mungur R.,

Johnson L., Nguyen D., Wang J., Forst C., Hood L., Mungur R.,

Johnson L., Nguyen D., Wang J., Forst C., Hood L.,

The complete genome sequence of Haemophius ducreyi.";

Submitted (JUN-2003) to the EMBL/Genbank/DBJ databases.

I. Submitted (JUN-2013) to the EMBL/Genbank/DBJ databases.

C. - FUNCTION: Catalyzes a salvage reaction resulting in the formation

of AMP, that is energically less costly than de novo synthesis.

C. - CATALYTIC ACTIVITY: AMP + diphosphate = adenine + 5-phospho-alpha-

D-ribose 1-diphosphate.

C. - SUBGNIT: Homodimer (By similarity).

- SUBGRILUIAR IOCATION: Cytoplasmic.

- SUBCELLUIAR LOCATION: Cytoplasmic.

- SUMILARITY: Belongs to the purine/pyrimidine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TICREAMS; TICRO1090; apt; 1.
PROSITE; PS00103; PUR PYR PR TRANSFER; 1.
Transferase; Glycosyltransferase; Purine salvage; Complete proteome.
SEQUENCE 179 AA; 19315 MW; 13A1DAFDC13560DF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bacteria; Proteobacteria; Gammaproteobacteria; Pasteurellales;
Pasteurellaceae; Haemophilus.
                                                     Query Match 95.0%; Score 19; DB 1; Length 178; Best Local Similarity 100.0%; Pred. No. 3.1e+02; Matches 4; Conservative 0; Mismatches 0; Indels 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 179;
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          19319 MW; 378A4F200240D924 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                      15-WAR-2004 (Rel. 43, Last sequence update)
15-WAR-2004 (Rel. 43, Last annocation update)
Adenine phosphoribosyltransferase (EC 2.4.2.7) (APRT)
APT OR HD1818.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      95.0%; Score 19; DB 1; Le 100.0%; Pred. No. 3.1e+02; ive 0; Mismatches 0;
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InterPro; IPR005764; Ade phspho_trans.
InterPro; IPR002375; Pr/py_rp_transf.
InterPro; IPR000836; PRTransferase.
Pfam; PF00156; Pribosyltran; 1.
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                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Haemophilus ducreyi.
          178 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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                                                                                                                                                          2 VABF 5
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ID RETB_BOVIN
AC P18902;
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       SEQUENCE
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STRAIN-UC-16 / DSM 4304 / ATCC 49558;

KIEDK H.-P., Clayton R.A., Tomb J.-F., White O., Nelson K.B.,

Klenk H.-P., Clayton R.A., Towb J.-F., White O., Nelson K.B.,

Klenk H.-P., Clayton R.J., Gwinn M., Hickey E.K., Peterson J.D.,

Klichardson D.L., Kerlavage A.R., Graham D.B., Kyrpides N.C.,

Richardson D.L., Quackenbush J., Lee N.H., Sutton G.G., Gill S.,

Kirkness E.F., Dougherty B.A., McKenney K., Adams M.D., Loftus B.,

Peterson S., Reich C.I., MoNeil L.K., Badger J.H., Glodek A.,

Cotton M.D., Spriggs T., Artiach P., Kaine B.P., Sykes S.M.,

Sadow P.W., D'Andrea K.P., Bowman C., Fujii C., Garland S.A.,

Mason T.M., Olsen G.J., Fraser C.M., Smith H.O., Woese C.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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Nature 390:364-370(1997).
TRANSFAC; TO1644; -..

FLYBASE SEG FERROROGGS1; HILHMS.

GO; GO.0005634; C:nucleus; IDA.

GO; GO.0005634; C:nucleus; IDA.

GO; GO.0005677; F:DNA binding; IDA.

GO; GO.0005677; F:DNA binding; IDA.

GO; GO.0005677; F:DNA binding; IDA.

INTERPRO! PROOFO CORANGE.

SMART; SMO0513; Hill; 1..

SWART; SMO0511; ORANGE; 1..

DARART; MODITE: PROOFO CORANGE; 1..

DOMAIN 88 1.29 ORANGE.

DOMAIN 175 178 WRPW MOTIF.
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175 178 WRPW MOTIF.
178 AA; 19923 MW; 19363D0F6043C84F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Archaea; Euryarchaeota; Archaeoglobi; Archaeoglobales;
Archaeoglobaceae; Archaeoglobus.
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PIR; E69389; E69389.
TIGR; AF1118; -.
Hypothetical protein; Signal; Complete proteome.
SIGNAL
CHAIN
21 178 HYPOTHETICAL PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           178 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hypothetical protein AF1118 precursor AF1118.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
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Sest Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                45 VAEF 48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=2234;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2 VAEF 5
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18 ARCFU
YB18 ARCFU
029147;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "The bovine plasma retinol-binding protein. Amino acid sequence, interaction with transthyretin, crystallization and preliminary X-ray
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS).
MEDLINE-93265508, PubMed=8496140;
Zanotti G., Berni R., Monaco H.L.;
"Crystal structure of liganded and unliganded forms of bovine plasma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Expression and cellular localization of retinol-binding protein messenger ribonucleic acid in bovine blastocysts and extraembryonic membranes.";
                                                                                                   Bos taurus (Bovine).
Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Bovinne; Bos.
NCBL_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDILINE=92222903; PubMed=1623143;
Monaco H.L., Zanotti G.;
Three-dimensional structure and active site of three hydrophobic
molecule-binding proteins with significant amino acid sequence
similarity.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Liu K.H., Dore J.J. Jr., Roberts M.P., Krishnan R., Hopkins F.M.,
                                                                                                                                                                                                                                                                 Berni R., Stoppini M., Zapponi M.C., Meloni M.L., Monaco H.L.,
Zanotti G.;
01-NOV-1990 (Rel. 16, Created)
01-NOV-1990 (Rel. 16, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Plasma retinol-binding protein (PRBP) (RBP).
RBP4.
                                                                                                                                                                                                                                                                                                                                                       data.";
Eur. J. Biochem. 192;507-513(1990)
                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE OF 52-183 FROM N.A.
MEDLINE=93385352; PubMed=8373966;
                                                                                                                                                                                                                                                    MEDLINE=91006139; PubMed=2209607;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Biol. Reprod. 49:393-400(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; S65585; AAB28336.1; -. PIR; 146955; 146955. PIR; 513186; 513186. PDB; 1ERB; 31-JAN-94. PDB; 1HBQ; 31-JAN-94. PDB; 1FEL; 01-NOV-94. PDB; 1FEL; 01-NOV-94. PDB; 1FEL; 01-NOV-94.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Biopolymers 32:457-465(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -RAY CRYSTALLOGRAPHY.
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PRINTS; PR00179; LIPOCALIN. PROSITE; PS00213; LIPOCALIN; 1. Plasma; Vitamin A; Retinol-binding; Transport; Liver; Lipocalin;

InterPro; IPR002345; Lipocalin. InterPro; IPR000566; Lipocin cytFABP.

Pfam; PF00061; lipocalin; 1.

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE-95202115; PubMed=7894745;

Bourtzis K., Nirgianaki A., Onyango P., Savakis C.;

Bourtzis K., Nirgianaki A., Onyango P., Savakis C.;

By prokaryotic dnaA sequence in Drosophila melanogaster: Wolbachia infection and cytoplasmic incompatibility among laboratory strains.";

Insect Mol. Biol. 3:131-142(1994).

-!- FUNCTION: Dlays an important role in the initiation and regulation of chromosomal replication. Binds to the origin of replication; it binds specifically double-stranded DNA at a 9 bp consensus (dnaA box); 5'-TTATC(C/A)A(C/A)A-3'. DnaA binds to ATP and to acidic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Wolbachia sp.
Bacteria, Proteobacteria, Alphaproteobacteria, Rickettsiales;
Rickettsiaceae; Wolbachieae; Wolbachia.
NCBI_TaxID=956;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 1; Length 183; .3.2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-UUN-1994 (Rel..29, Created)
01-UUN-1994 (Rel. 29, Last sequence update)
02-FEB-2003 (Rel. 41, Last annotation update)
Chromosomal replication initiator protein dnaA (Fragment)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                       21068 MW; D6BA064CB9E67C09 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                            95.0%; Scor.
100.0%; Pred. No. ...
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SIMILARITY.
SIMILARITY.
SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 phospholipids (By similarity).
-!- SIMILARITY: Belongs to the dnaA family.
 BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                         183 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       42 VAEF 45
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RESULT 45

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Score 19;
Pred. No.
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STRAIN=JAL-1 / DSM 2661 / ATCC 43067;
MEDLINE=99332061; PubMed=10404228;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20299 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             95.0%;
100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 phosphohydrolase) (NTPase).
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Best Local Similarity luv...
4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. MEDILINE-88007612; PubMed=2820981; MEDILINE-88007612; PubMed=2820981; Kurowski B., Ludwig B.; Kurowski B.; Ludwig B.; "The genes of the Paracoccus denitrificans bc1 complex. Nucleotide sequence and homologies between bacterial and mitochondrial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-NOV-1988 (Rel. 09, Created)
01-NOV-1988 (Rel. 09, Last sequence update)
15-MAR-2004 (Rel. 43, Last annotation update)
Ubiquinol-cytochrome C reductase iron-sulfur subunit (EC 1.10.2.2)
(Rieske iron-sulfur protein) (RISP).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     respiratory chain that generates an electrochemical potential coupled to ATP synthesis. CATALYTIC ACTIVITY: QH(2) + 2 ferricytochrome c = Q + 2
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J. Biol. Chem. 262:13805-13811(1987).
-!- FUNCTION: Component of the ubiquinol-cytochrome c reductase
-!- FUNCTION: Component of the ubiquinol-cytochrome b-cl complex (complex (complex lil or cytochrome b-cl complex lil or complex complex (complex lil or conserved an electrochemical potentifer complex comple
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Rhodobacteraceae; Paracoccus.
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Similarity 100.0%; Pred. No. 3.3e+02;
4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                     186 AA; 21283 MW; C423C06CEFFB0459 CRC64;
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SIMILARITY: Belongs to the Rieske family.
EMBL; Z28981; CAA82285.1; -.
PIR; S39317; 539317.
HAMAP; MF-0377; -!.
IITEPFO; IPR001957; Bac_DnaA.
Pfam; PP00308; bac_dnaA; I.
PRINTS; PR00051; DNAA.
PROSITE; PS01008; DNAA; PARTIAL.
NON TER 1
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InterPro; IPR005806; Rieske dom.
InterPro; IPR006317; Rieske_proteo.
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EMBL; X05799; CAA29243.1; -.
PIR; A29413; A29413.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Paracoccus denitrificans.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                   186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               134 VAEF 137
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=266;
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P05417;
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-!- FUNCTION: CAN BFFICIENTLY HYDROLYZE NONSTANDARD NUCLEOTIDES SUCH
AS XTP TO XMP OR ITP TO IMP, BUT NOT THE STANDARD NUCLEOTIDES. XTP
IS THE BEST SUBSTRATE.
-!- CAPALYIC ACTIVITY: NTP + H(2)O = NDP + phosphate.
-!- COFACTOR: Magnesium or manganese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
STRAIN=JAL-1 / DSW 2661 / ATCC 43067;
MEDLINE=96337999; PubMed=8688087;
MEDLINE=96337999; PubMed=8688087;
Buit C.J., White O., Olean G.J., Zhou L., Fleischmann R.D.,
Sutton G.G., Blake J.A., FitzGerald L.M., Clayton R.A., Gocayne J.D.,
Kerlavage A.R., Dougherty B.A., Tomb J.-F., Adams M.D., Rach C.I.,
Coverbeek R., Kirkness E.F., Weidman J.F., Fuhrmann J.L., Nguyen D.,
Scott J.L., Geoghagen N.S.M., Weidman J.F., Fuhrmann J.L., Nguyen D.,
Utterback T.R., Kelley J.M., Peterson J.D., Sadow P.W., Hanna M.C.,
Cotton M.D., Roberts K.M., Hurst M.A., Kaine B.P., Borodovsky M.,
Rlenk H.-P., Fraser C.M., Smith H.O., Woese C.R., Venter J.C.,
"Complete genome sequence of the methanogenic archaeon, Methanococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIMILARITY).
SIMILARITY).
SIMILARITY).
SIMILARITY).
Pfam; Project Reske; 1.

PRINTS; PRO0165; Rieske; 1.

TIGRFAMS; TIGR01416; Rieske_proteo; 1.

TIGRFAMS; TIGR01409; TAT signal_seq; 1.

PROSITE; PS00200; RIESKE_1; 1.

PROSITE; PS00200; RIESKE_2; 1.

PROSITE; PS00200; RIESKE_2; 1.

PROSITE; PS00200; RIESKE_2; 1.

TIGNSUB; PS00200; RIESKE_2; 1.

TRANSMEM 18 39 POTENTIAL
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01-NOV-1997 (Rel. 35, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Nucleoside-triphosphatase (RC 3.6.1.15) (Nucleoside triphosphate
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(BY
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Archaea; Buryarchaeota; Methanococci; Methanococcales;
Methanocaldococcaceae; Methanocaldococcus.
NCBI_TaxID=2190;
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                                             halodurans and genomic sequence comparison with Bacillus subtilis.";
Nucleic Acids Res. 28:4317-4331(2000).
-!- SIMILARITY: Belongs to the HAMI NTPase family.
               "Complete genome sequence of the alkaliphilic bacterium Bacillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-NOV-1998 (Rel. 09, Created)
01-NOV-1998 (Rel. 09, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Transposon Thi2501 resolvase.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; AP001517; BAB06786.1; -. PIR; C84033; C84033. R4039; C57679; LB78. LAMARP; MF 01405; -; 1. InterPro; IPR02657; Hamlp_like. ProDom; PD004952; Hamlp_like; IPRODom; PD004952; Hamlp_like; ITGRAMM; TIGREGO042; TIGRO0042; 1.
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P05823;
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the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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HWAMP, MF 01406; atypical; 1.
InterPro; IPR00263; Hamlp_like.
Pfam; PF01725; Hamlp_like; 1.
TIGRPAMs; TIGR00042; TIGR00042; 1.
Hydrolase; Manganese; Magnesium; 3D-structure; Complete proteome.
STRAND
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STRANIE-125 / JCM 9153;
MEDLINE=20512582; Pubmed=11058132;
Takami H., Nakasone K., Takaki Y., Maeno G., Sasaki R., Masui N.,
Fuji F., Hirama C., Nakamura Y., Ogasawara N., Kuhara S.,
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NCBI TaxID=86665;
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28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
                                                                                                                                                                                                          EMBL; U67478; AAB98211.1; -.
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Q9KBD9;
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PDB; 2MJP; 28-JAN-00.
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   SCHOOL STATE THE TENT THE TENT
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                                                                                                                                                                                                                                                  Gaps
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- FUNCTION: RESOLVASE CATALYZES THE RESOLUTION (A SITE-SPECIFIC RECOMBINATION) OF THE COLNTERRATED REPLICON TO YIELD THE FINAL TRANSPOSITION PRODUCTS.

-- MISCELLANEOUS: TWISTOL IS A CRYPTIC CLASS II TRANSPOSON FOUND AS PART OF THE LACTOCE TRANSPOSON TROSI.

-- SIMILARITY: Belongs to the site-specific recombinase resolvase
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Enterobacteriaceae; Escherichia.
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                                                                                                                                            95.0%; Score 19; DB 1; Length 194; 100.0%; Pred. No. 3.4e+02; trive 0; Mismatches 0; Indels
Hydrolase, Complete proteome.
SEQUENCE 194 AA; 21868 MW; BBCSAOC4F19A04B3 CRC64;
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PINR ECOLI
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  SET TENERAL SET FEE
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                                                                                               PROSITE; PS00397; RECOMBINASES 1; 1.
PROSITE; PS00398; RECOMBINASES 2; 1.
DNA recombination; DNA integration; DNA-binding; Transposable element.
ACT_SITE 11 11 STRAND CLEAVAGE AND REJOINING
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                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;
Enterobacteriaceae; Escherichia.
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                                                                                                                                                                                                                                                                                                                                               95.0%; Score 19; DB 1; Length 194; 100.0%; Pred. No. 3.4e+02; iive 0; Mismatches 0; Indels
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21420 MW, DEDFCOBA6406EAD1 CRC64;
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16-OCT-2001 (Rel. 40, Last sequence update)
18-PEB-2003 (Rel. 41, Last annotation update)
Purative DNA invertase from lambdoid prophage Qin.
PINQ OR B1545.
                                                                                                                                                                                                                                             (BY SIMILARITY)
H-T-H MOTIF (PR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               196 AA
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InterPro, IPRO06118; Recombinase
InterPro; IPRO06119; recolvase_N
Pfam; PP02796; HTH 7; 1.
Pfam; PF00239; resolvase; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; AE000252; AAC74618.1; -.
EMBL; D90799; BAAL5249.1; -.
PIR; D64909; D64909.
HSSP; P03012; 2RSL.
                                                                                                                                                                                                                                                                                                                                                                                                                  4; Conservative
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Best Local Similarity
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Bcogene, E013824; pinQ.
InterPro; IPR006120; HTH 7.
InterPro; IPR006120; Recombinase.
InterPro; IPR006119; resolusse_N.
Pfam; PF00239; HTH 7; 1.
Pfam; PF00239; RECOMBINASE_1; FALSE_NEG.
PROSITE; PS00399; RECOMBINASE_1; FALSE_NEG.
PROSITE; PS00399; RECOMBINASE_2; 1.
Hypothetical protein; DNA recombination; DNA integration; DNA-binding; DNA invertase; Complete proteome.
ACT_SITE

ACT_SITE

11 CREANSIENT CONVELNT LINKAGE TO DNA DURING
                                                                                                                                                                                                                                                                                                                                TRANSIENT COVALENT LINKAGE TO DNA DURING STRAND CLEAVAGE AND REJOINING
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MEDLINE=97426617, PubMed=9278503;
Blattner F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland V.,
Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F.,
Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J.,
Mau B., Shao Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;
Enterobacteriacese; Escherichia
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                                                                                                                                                                                                                                                                                                                                                                                               (BY SIMILARITY).
7CF47F6D88DBD497 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Putative DNA-invertase from lambdoid prophage Rac.
PINR OR B1374 OR C3146
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STRAIN=06:H1 / CFI073 / ATCC 700928;
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                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE 196 AA; 21852 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
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Best Local Similarity
A; Conserva
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MEDLINE=93315143; PubMed=7686882;
  This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss institute of Bloinformatics and the EMBL outstands. Let be between the Swiss institute of Bloinformatics institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                             PIRSP; A64888; A648888; A64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TRANSIENT COVALENT LINKAGE TO DNA DURING STRAND CLEAVAGE AND REJOINING (BY SIMILARITY).

196 AA; 21908 MW; 643A62BC940B29A9 CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;
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UHPA OR B3669 OR C4593 OR Z5159 OR BCS4606 OR SF3792 OR S3976.

Escherichia coli,

Escherichia coli O6,

Escherichia coli O67:H7, and

Scherichia coli O157:H7, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Friedrich M.J., Kadner R.J.; "Nucleotide sequence of the uhp region of Escherichia coli."; J. Bacteriol. 169:3556-3563(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              95.0%; Score 19; DB 1; Length 196; 100.0%; Pred. No. 3.4e+02; Alswetches 0; Indels
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01-JUL-1989 (Rel. 11, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
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SPECIES=E.coli; STRAIN=K12 / MG1655;
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SPECIES=E.coli;
MEDLINE=87279903; PubMed=3301805;
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                                                                                                                                                                                        EMBL; AE000234; AAC74456.1; -. EMBL; D90775; BAA14979.1; -.
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P10940;
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Pariland VDD. Pitchner G. III. Daniels D.L. Biltherer F.R. G. Brain and VDD. Sequence and analysis of Lisk kilobases of the Escherichia coli RT DNA sequence and analysis of Lisk kilobases of the Escherichia coli RT Genomics organizational symmetry around the origin of replication.'; Genomics organizational symmetry around the origin of replication.'; RESTRINGES COLI, STRAIN-GENIN / CTOT3 / ATCC 700328; RESTRINGES COLI, STRAIN-GENIN / CHORA C. Berna M.T., Stroud D., MAYNEW G.E. Rose D.J. Zhou S. Schwartz D.C., Perna M.T., Stroud D., MAYNEW G.E., Rose D.J. Zhou S., Schwartz D.C., Perna M.T., Stroud D., MAYNEW G.E., Rose D.J. Zhou S., Schwartz D.C., Perna M.T., Stroud D., MAYNEW G.E., Rose D.J., Raynew G.E., Rose D.J., Raynew G.E., Rose D.J., Raynew G.E., Rose D.J., MAYNEW G.E., Rose D.J.,
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Mus musculus (Mouse).
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Best Local S
Matches 4
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use by non-profit institutions as long as its content is in no way anodified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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MEDLINE=21534948; PubMed=11677609;
McClelland M., Sanderson K.E., Spieth J., Clifton S.W., Latreille P.,
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InterPro; IPR00192; Response_reg.

Pfam; PP00196; Gerg; 1.

Pfam; PP001036; Gerg; 1.

PRINTS; PR00039; HTHLUXR; 1.

ProDom; PD000309; Response_reg; 1.

ProDom; PD00309; Response_reg; 1.

SMART; SM00421; HTH_LUXR; 1.

SMART; SM00421; HTH_LUXR; 1.

SMART; SM00421; HTH_LUXR; 1.

PR051TE; PS00622; HTH_LUXR; 1.

PR051TE; PS00622; HTH_LUXR FAMILY; 1.

PR061TE; PS00622; HTHLUXR FAMILY; 1.

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Enterobacteriaceae, Salmonella.
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01-AUG-1992 (Rel. 23, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Transcriptional regulatory protein uhpA.
Salmonella typhimurium.
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"Structure and function of the uhp genes
transport system in Escherichia coli and
J. Bacteriol. 174:2754-2762(1992).
                                                                                                                                                                                      EMBL, M17102; AAA24720.1; -.
EMBL, M89479; AAA24721.1; -.
EMBL, L10328; AAA62021.1; -.
EMBL, AE000444; AAC76692.1; -.
EMBL, AE016769; AAN83027.1; -.
EMBL, AE005566; BAB3808.1; -.
EMBL, AE015386; AAA45232.1; -.
EMBL, AE016391; AAA18964.1; -.
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MEDLINE=92234930; PubMed=1569007;
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PIR; F91204; F91204.
PIR; H86050; H86050.
HSSP: P10957; INU.
ECO2DBASE; G020.9; GTH EDITION.
ECGEDE; EG1051; UhpA.
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P27667;
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IPA_SALTY
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REMEL; AAE008876; AAL22648.1; -

REMEL; AAE008876; AAL22648.1; -

REMEL; AAE008876; AAL22648.1; -

REMEL; AAE008876; AAL22648.1; -

REMEL; AAE00877; LNPA.

RESPONSE; PRO00178; RESPONSE_reg.

RELICEPEC; IPRO00178; RESPONSE_reg.

REPINTS; PRO0039; HTHLUXR.

RESPONSE; RESPONSE_REG. 1.

RESPONSE; RESPONSE_REGULATORY, 1.

RESPONSE; RESPONSE_REGULATORY, 1.

RESPONSTE; RESPONSE_REGULATORY, 1.

RESPONSTE; RESPONSE_REGULATORY, 1.

RESPONSTE; RESPONSE_REGULATORY, 1.

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Courtney L., Porwollik S., Ali J., Dante M., Du F., Hou S., Layman D. Leonard S., Nguyen C., Scott K., Holmes A., Grewal N., Mulvaney E., Ryan E., Sun H., Florea L., Miller W., Stoneking T., Nhan M., Waterston R., Wilson R.K., "Complete genome sequence of Salmonella enterica serovar Typhimurium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -1- SUBCELLULAR LOCATION: Cytoplasmic (Probable).
-1- PTM: PHOSPHOWYLATED BY UHPB (PROBABLE).
-1- SIMILARITY: Contains 1 response regulatory domain.
-1- SIMILARITY: BELONGS TO THE LUXR/UHPA FAMILY OF TRANSCRIPTIONAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
MEDLINE=99303612; PubMed=10373455;
Muramatsu M., Sankaranand V.S., Anant S., Sugai M., Kinoshita K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
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28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Activation-induced cytidine deaminase (EC 3.5.4.5) (Cytidine aninohydrolase)
                                                                                                                                                                                                                                                                                                                                               Nature 413:852-856(2001).
-!- FUNCTION: APPEARS TO BE THE POSITIVE ACTIVATOR OF UHPT
TRANSCRIPTION.
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100.0%; Pred. No. 3.4e+02;
ative 0; Mismatches 0;
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Davidson N.O., Honjo T.; "Specific expression of activation-induced cytidine deaminase (AID), a novel member of the RNA-editing deaminase family in germinal center B

cells.";

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J. Biol. Chem. 274:18470-18476(1999).
-!- FUNCTION: RNA-editing deaminase involved in somatic hypermutation, gene conversion, and class-waitch recombination. Required for several crucial steps of B-cell terminal differentiation necessary for efficient antibody responses.
-!- CATALYTIC ACTIVITY: Cyridine + H(2)0 = uridine + NH(3).
-!- COFACTOR: Zino (By similarity).
-!- COFACTOR: Zino (By similarity).
-!- SIMILARITY: Belongs to the cytidine and deoxycytidylate deaminases
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STRAIN=ATCC 35092 / DSM 1617 / P2;
MEDLINE=20165948; PubMed=10701121;
MEDLINE=20165948; PubMed=10701121;
Charlebois R.L., Singh R.K., Chan, Mether C.C.-Y., Allard G., Chow C.,
Confalonieri F., Curtis B., Duguet M., Erauso G., Faguy D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15-DEC-1998 (Rel. 37, Created)
15-DEC-1998 (Rel. 37, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Imidazole glycerol phosphate synthase subunit hisH (EC 2.4.2.-) (IG
synthase glutamine amidorransferase subunit) (IGP synthase subunit hisH) (IMGP synthase subunit hisH)
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MEDLINE-97352708; PubMed-9209067;
Charlebois R.L., Sensen C.W., Doolittle W.F., Brown J.R.;
"Evolutionary analysis of the hisCGABdFDEHI gene cluster from the archaeon Sulfolobus solfataricus P2.";
J. Bacteriol. 179:4429-4432(1997).
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87 87 ZINC (BY SIMILARITY).
90 2INC (BY SIMILARITY).
198 Aa, 24030 MW; 18A3BA10CA54BBB2 CRC64;
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GO; GO:0004126; F:cytidine deaminase activity; IDA.
InterPro; IPR007904; APOBEC_C.
InterPro; IPR002125; dCMP/Cyt_deam.
Pfam; PF05240; APOBEC_C: 1.
PROSITE; PS00903; CYT_DCMP_DEAMINASES; 1.
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Matches 4; Conserv
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SEQUENCE FROM N.A.
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HISS_SULSO
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SEQUENCE FROM N.A.

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SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

SEQUENCE 5192256; PubMed=11427726;

RA De Q., Singh R.K., Confalonieri F., Zivanovic Y., Allard G.,

RA Awayez M.J., Chan-Weiher C.C.-Y., Clausen I.G., Cuttis B.A.,

RA Heikamp-de Jong I., Jeffrise A.C., Kozera C.J., Medina N., Peng X.,

RA Heikamp-de Jong I., Jeffrise A.C., Kozera C.J., Medina N., Peng X.,

RA Heikamp-de Jong I., Jeffrise A.C., Kozera C.J., Medina N., Peng X.,

RA Thi-Ngoc H.P., Redder P., Schenk M.B., Theriault C., Tolstrup N.,

RA Charlebois R.L., Doollitie W.F., Duguet M., Gasaterland T.,

RA Charlebois R.L., Doollitie W.F., Duguet M., Gasaterland T.,

RA Charlebois R.L., Doollitie W.F., Duguet M., Gasaterland T.,

RA Charlebois R.L., Sensen C.W., Van der Oost J.,

RA Charlebois R.L., Doollitie W.F., Duguet M., Gasaterland T.,

RA Charlebois R.L., Doollitie W.F., Duguet M., Gasaterland T.,

RA Charlebois R.L., Doollitie W.F., Duguet M., Gasaterland T.,

RA Charlebois R.L., Doollitie W.F., Duguet M., Gasaterland T.,

RA Charlebois R.L., Doollitie W.F., Duguet M., Gasaterland T.,

RA Charlebois R.L., Doollitie W.F., Duguet M., Gasaterland T.,

RA Charlebois R.L., Doollitie W.F., Duguet M., Gasaterland T.,

RA Charlebois R.L., Doollitie R.L., Pollospho-1-deoxyribulos-1-

C. -1- FUNCTION: 1GPS catalyzes the conversion of PRFAR and glutamine to Light A.C. M. (GP and AICAR (By similarity).

C. -1- CATALYTIC ACTIVITY: 5-[(5-phospho-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulos-1-deoxyribulo
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Gaasterland T., Garrett R.A., Gordon P., Jeffries A.C., Kozera C., Kushwaha N., Lafleur E., Medina N., Peng X., Penny S.L., She Q., St Jean A., van der Oost J., Young F., Zivanovic Y., Doolittle W.F., Ragan M.A., Sensen C.W.;
                                                                                                                                                                                                                  "Gene content and organization of a 281-kbp contig from the genome the extremely thermophilic archaeon, Sulfolobus solfataricus P2.", Genome 43:116-136 (2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PIR; H90206; H90206.
HAMAP, WF 00278; -; 1.
InterPro; IPR000991; GATase_1.
Pfam; PF00117; GATASE; 1.
PROSITE; PS00442; GATASE TYPE_I; FALSE_NEG.
Histidine biosynthesis; Transferase; Glutamine amidotransferase;
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28-FEB-2003 (Rel. 41, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Plasma retinol-binding protein precursor (PRBF) (RBP).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
; 17DB1A86724CE095 CRC64;
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178
180
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REPRESENT 100 MRSE
AC 028369;
DT 28-FEB-2003 (CDT 28-FEB-2003 (C
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REPRESENTED FOR THE SERVICE FOR THE SERVICE SE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                         0; Gaps
                                      Būkaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Perissodactyla; Equidae; Equus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RETE HUMAN STANDARD; PRT; 201 AA.
P02753; C43478; 043479; Q8WWA3; Q9P178;
21-UUL-1986 (Rel. 01, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
10-CCT-2003 (Rel. 42, Last annotation update)
Plasma retinol-binding protein precursor (PRBP) (RBP) (PRO2222).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRINTS; PRO0179; LIPOCALIN; PROSITE; PS00213; LIPOCALIN; 1.
PROSITE; PS00213; LIPOCALIN; 1.
Plasma; Vitamin A; Retinol-binding; Transport; Liver; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
BEDLINES-84069802; PubMed=6316270;
Colantuoni V., Romano V., Bensi G., Santoro C., Costanzo F.,
Raugei G., Cortese R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               POTENTIAL,
PLASMA RETINOL-BINDING PROTEIN
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 19; DB 1; Length 201;
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BY SIMILARITY.
BY SIMILARITY.
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HSSP: P27485; 1AQB.
InterPro; IPR002345; Lipocalin.
InterPro; IPR000566; Lipoclin_cytFABP.
Pfam; PF00061; lipocalin; 1
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22 178 BY
88 192 BY
138 147 BY
201 AA; 23022 MW; 1
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             Equus caballus (Horse)
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                                                                                                                                           SEQUENCE FROM N.A.
                                                                                          NCBI_TaxID=9796;
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Matches
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MEDLINEALSUSELS, FULDMENGELLA, Grouse L.H., Derge J.G.,
A Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
A Altschul S.E., Zeeberg B., Magner L., Shenmen C.M., Schuler G.D.,
A Altschul S.E., Zeeberg B., Buetow K.H., Schaefer C.F., Babt N.K.,
A Hopkins R.F., Jordan H., Moore T., Max S.I., Mang J., Hsieh F. M.,
A Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
A Branten M.J. Goares M.B., Bonaldo M.F., Casavant T.E., Scheetz T.E.,
A Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Frange C.,
A Brownstein M.J., Usdin T.B., Peters G.J., Abramson R.D., Mullahy S.J.,
RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
A Richards S., Morley K.C., Halte S., Garcia A.M., Gay L.J., Hulyk S.W.,
A Richards S., Worley K.C., Halte S., Garcia A.M., Gay L.J., Hulyk S.W.,
A Richards S., Morley W.C., Shevchenko Y., Bonifard G.G.,
A Milting M., Madan A., Young A.C., Shevchenko Y., Bonifard G.G.,
A Mitting M., Madan A., Young A.C., Shevchenko Y., Bonifard G.G.,
A Blakesley R.W., Touchman J.W., Green B.D., Dickson M.C.,
A Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smallus D.E.,
A Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smallus D.E.,
A Generation and initial analysis of more than 15,000 full-length
Human and mouse colns sequences",
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUB=Fetal liver;
Zhang C., Yu Y., Zhang S., Wei H., Zhang Y., Zhou G., Bi J., Liu M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE-95395382; PubMed=7666002; Saurat J.-H., Siegenthaler G.; Asconi S., Rose K., Hughes G.J., Saurat J.-H., Siegenthaler G.; Characterization of two post-translationally processed forms of human serum retinol-binding protein: altered ratios in chronic renal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Structural and functional studies of vitamin A-binding proteins."; Ann. N.Y. Acad. Sci. 359:79-90(1981).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEGUENCE OF 1-189 FROM N.A.
MEDLINE=86055755; PubMed=2998779;
MEDLINE=860557555; PubMed=2998779;
D'Onofrio C., Colantuoni V., Cortese R.;
"Structure and cell-specific expression of a cloned human retinol binding protein gene: the 5'-flanking region contains hepatoma specific transcriptional signals.";
EMBO J. 4:1991-1999(1985).
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MEDLINE-88019004; PubMed=2444024;
Rask L., Anundi H., Fohlman J., Peterson P.A.;
The complete amino acid sequence of human serum retinol-binding
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Rask L., Anundi H., Boehme J., Briksson U., Ronne H., Sege K.,
Peterson P.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE OF 19-183.
MEDINE-80004132; PubMed=573217;
MESK L., Anundi H., Pererson P.A.;
"The primary structure of the human retinol-binding protein.";
retinol-binding protein.", i Nucleic Acids Res. 11:7769-7776(1983).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         X-RAY CRYSTALLOGRAPHY (2.0 ANGSTROMS).
MEDLINE=91017498; PubMed=2217163;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Jps. J. Med. Sci. 92:115-146(1987).
                                                                                                                                                                                       TISSUE=Liver;
MEDLINE=22388257; PubMed=12477932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lipid Res. 36:1247-1253(1995).
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R PDB; 1BRP; 31-JAN-94.

R PDB; 1BRQ; 31-JAN-94.

R PDB; 1BRQ; 31-JAN-94.

R SHISS-2DPAGE; P02753; HUMAN.

R Genew; HANC: 992; RBP4.

R MIM; 180250; C:extracellular space; TAS.

GO; GO:0005501; F:retinoid binding; TAS.

R GO; GO:005501; Lipocalin, 1.

R InterPro; IPR000566; Lipocalin, 24. FABP.

R PROSTTE; PR00013; LIPOCALIN; 1.

R PROSTTE; PR0013; LIPOCALIN; 1.

R PR05TTE; PR0
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                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstationthe European Bioinformatics Institute. There are no restrictions on its most by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DISEASE: Defects in RBP4 are a cause of retinol-binding protein deficiency [MIM:180250]. This condition causes night viation problems. It produces a typical "fundus xerophthalmicus," featuring a progressed atrophy of the retinal pigment epithelium. DISEASE: A deficiency of vitamin A blocks secretion of the binding supply of vitamin to the epidermal cells in defective delivery and supply of vitamin to the epidermal cells (a condition associated with a dermatosis).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=99103495; PubMed=9888420;
MEDLINE=99103495; PubMed=9888420;
Seeliger M.W., Biesalski H.K., Wissinger B., Gollnick H., Gielen S.,
Frank J., Beck S., Zrenner E.;
Fhenctype in retinol deficiency due to a hereditary defect in retinol
binding protein synthesis.";
Invest. Ophthalmol. Vis. Sci. 40:3-11(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         X-RAY CRYSTALLOGRAPHY (3.2 ANGSTROMS) OF COMPLEX WITH TIR. MEDLINE=99162254; PubMed=10052934; Naylor H.M., Newcomer M.E.; "The structure of human retinol-binding protein (RBP) with its carrier protein transthyretin reveals an interaction with the carboxy terminus of RBP.";
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DATABAGE: NAME=Mutations of the RBP4 gene;
NOTE=Retina International's Scientific Newsletter;
WWW="http://www.retina-international.com/sci-news/rlbp4mut.htm".
                                         Cowan S.W., Newcomer M.E., Jones T.A.; "Crystallographic refinement of human serum retinol binding protein at 2-A resolution.";
                                                                                                                                                                                                                                              MEDLINE-92322903; PubMed-1623143;
Monaco H.L., Zanotti G.;
"Three-dimensional Bructure and active site of three hydrophobic
molecule-binding proteins with significant amino acid sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Biochemistry 38:2647-2653(1999)
                                                                                                                                                                                                                                                                                                                                                                                           similarity.";
Biopolymers 32:457-465(1992)
                                                                                                                                                Proteins 8:44-61(1990).
                                                                                                                                                                                                                X-RAY CRYSTALLOGRAPHY
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PLASMA RETINOL-BINDING PROTEIN

I -> N (in RBP deficiency).
/FIId=VAR 009276.
G -> D (in RBP deficiency).
/FIId=VAR 009277.
F -> L (IN REF. 1 AND 3).
LGSGR -> WAA (IN REF. 1 AND 3)

147 59

CHAIN DISULFID DISULFID DISULFID VARIANT 93

VARIANT

CONFLICT CONFLICT STRAND

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            X-RAY CRYSTALLOGRAPHY (1.65 ANGSTROMS), AND REVISIONS TO 134 AND 185.
MEDLINE-89437649; PubMed-9757135;
Zanotti G., Panzalorto M., Marcato A., Malpeli G., Folli C., Berni R.
"Structure of pig plasma retinol-binding protein at 1.65-A
                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
NOBI_TaxID=9823;
                                                                                                                                                                                                  ö
                                                                                                                                                                        Length 201;
                                                                                                                                                                                                                                                                                                                                                    01-AUG-1992 (Rel. 23, Created)
15-UUL-1998 (Rel. 36, Last sequence update)
15-UL-1998 (Rel. 36, Last amoutation update)
Plasma retinol-binding protein precursor (PRBP) (RBP)
                                                                                                                                                                      95.0%; Score 19; DB 1; Lt
100.0%; Pred. No. 3.5e+02;
:ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                            201 AA
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                                                                                                                                                                                                   4; Conservative
8788889888
                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                          Sus scrofa (Pig).
                                                                                                                                                                                                                               VAEF 5
N
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                                                                                                                                                                                                                                                                                                                 RETB_PIG
ID RETB_PIG
                                                                                                                     STRAND
                                                                                                                                                  STRAND
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                                                                                                                                                                                                                                                                                                   RESULT 57
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EMBL; AF025334; AAC025EMBL; AF025335; AAC025PIR; A93494; VAHU.
PDB; 1RBP; 15-JUL-91.

BC020633, AAH20633.1; -X02775; CAA26553.1; -. X02824; CAB46489.1; -. EMBL; X00129; CAA24959.1; -.

EMBL; EMBL; EMBL;

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Tetinol-binding proteins. 7

Lissues. In plasma, the RBP-retinol complex interacts with transthyretin, this prevents its loss by filtration through the transthyretin, this prevents its loss by filtration through the transthyretin, this prevents its loss by filtration through the complex control of subscients. 8 copyright. It is produced through a collaboration of the SWISS-PROT entry is copyright. It is produced through a collaboration of the swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its case by non-profit institutions as long as its content is in no way conditions and its statement is not removed. Usage by and for commercial on the send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Amino acid sequence homologies between rabbit, rat, and human serum
                                                                                                                                                                                                                                                                                                                                             SEQUENCE OF 19-201.
MEDLINE-8520'7643; PubMed=3838985;
Sundelin J., Laurent B.C., Anundi H., Traegaardh L., Larhammar D.,
Bjoerck L., Eriksson U., Aakerstroem B., Jones A., Newcomer M.,
Peterson P.A., Rask L.;
                                                                                                             Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Lagomorpha, Leporidae, Oryctolagus.
                                                                                                                                                                                    [1]
SEQUENCE FROM N.A.
MEDLINE=93011736; PubMed=1339354;
Lee S.Y., Ubels J.L., Soprano D.R.;
"The lacrimal gland synthesizes retinol-binding protein.";
Exp. Eye Res. 55:163-171(1992).
  01-OCT-1996 (Rel. 34, Last sequence update)
28-FEB-2003 (Rel. 41, Last annotation update)
Plasma retinol-binding protein precursor (PRBP)
                                                                                            Oryctolagus cuniculus (Rabbit)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; S45958; AAB23582.1; -. PIR; A49178; VARB.
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Best Local Similarity
4; Conserve
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22 1
88 1
138 1
201 AA;
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                                                                                                                                                           NCBI_TaxID=9986;
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DISULPID
SEQUENCE
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SIGNAL
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Gaps
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InterPro; IPR002345; Lipocalin.
InterPro; IPR000566; Lipocalin. cytPABP.
PEfam; PF00061; Lipocalin; 1.
PROSITE; PR00179; LIPOCALIN.
PROSITE; PS00213; LIPOCALIN; 1.
PROSITE; PS00213; LIPOCALIN; 1.
PLIPOCALIN; 1.
PLOCALIN; J. PETENTIAL.
SIGNAL.
SIGNAL.
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PLASMA RETINOL-BINDING PROTEIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   95.0%; Score 19; DB 1; L
100.0%; Pred. No. 3.5e+02;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4 A
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Best Local Similarity
Matches 4; Conserv
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                                                                                   PROSITE; PS00213; LIPOCALIN; 1.
Plasma; Vitamin A; Retinol-binding; Transport; Liver; Lipocalin;
                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                PLASMA RETINOL-BINDING PROTEIN.
BY SIMILARITY.
BY SIMILARITY.
A SIMILARITY.
4153FCP050184136 CRC64;
                                                                                                                                                                                                                                                  Length 201;
                                                                                                                                                                                                                                    Score 19; DB 1; Lengtn 20.2; Pred. No. 3.58+02; 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     16-AUG-1992 (Rel. 23, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
16-OCT-2001 (Rel. 40, Last annotation update)
Hypotherical protein YigZ.
YIGZ OR B3848.
                                                                                                                                                                                                                                                                                                                                                                                                                                        204 AA
                                                                                                                                                                                                                                                  95.0%; Score 19; DB
ilarity 100.0%; Pred. No. 3.5
Conservative 0; Mismatches
HSSP; P18902; 1FEN.
InterPro; IPR002345; Lipocalin.
InterPro; IPR00566; Lipocln_cytFABP.
Pfan; PF00061; Lipocalin; 1.
PRINTS; PR00179; LIPOCALIN.
                                                                                                                                                                                                                    23102 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                      YIGZ ECOLI
P27862;
                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 59
YIGZ ECOLI
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201 AA.

SULT 58
TB\_RABIT
RETE RABIT
PO6912;
01-JAN-1988 (Rel. 06, Created)

60 VAEF 63

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Wagner G.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBO J. 13:493-503(1994).
-!- SIMILARITY: BELONGS TO THE UPP0029 FAMILY. STRONG, TO H.INFLUENZAE
H10722.
                                                                                                                                                                                                               MEDLINE=92358234; PubMed=1379743;
Daniels D.L., Plunkett G. III, Burland V.D., Blattner F.R.;
"Analysis of the Bsofterichia coli genome: DNA sequence of the region Efrom 84.5 to 86.5 minutes";
Science 257:771-778 (1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nakahigashi K., Inokuchi H.;
"Nucleotide sequence between the fadB gene and the rrnA operon from
Escherichia coli.";
Escherichia coli.
Bacteria; Profeobacteria; Gammaproteobacteria; Enterobacteriales;
Enterobacteriaceae; Escherichia.
NCBI_TaxID=562;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Mitotic spindle assembly checkpoint protein MAD2A (MAD2-like 1)
(HSMAD2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ô
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204 AA; 21757 MW; 97E48163FE899DBE CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE-94147996, PubMed=8313894,
Koonin E.V., Bork P., Sander C.,
"Yeast chromosome III: new gene functions.",
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  205 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL, M87049; AAA67645.1; ALT INIT.
EMBL, AE000460; AAC76851.1; ALT INIT.
EMBL, X56487; CAA38501.1; ALT INIT.
ECCGENCE; EGIL484; yigz.
INTERPRO; IPR009022; EFG III V.
INTERPRO; IPR001498; UPF0029.
INTERPRO; IPR001498; UPF0029.
ITGREAMS; TIGR00257; TIGR00257; I.
PROSITE; PS00910; UPF0029; 1.
Hypothetical protein; Complete proteome.
CONFLICT 22 4 AA; 21757 MW; 97E48163FE89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Nucleic Acids Res. 18:6439-6439(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=91057145; PubMed=2243799;
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Les 4; Conservative
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                                                                                                                                                     SEQUENCE FROM N.A.
STRAIN=K12 / MG1655;
                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
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Q13257;
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Homo sapiens (Human). Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi, Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo. NCBI\_TaxID=9606;

MAD2L1 OR MAD2

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SEQUENCE FROM NA.

SEQUENCE STORMENTOW, and Muscle;

MEDLINE=22389257; PubMed=12477932;

MEDLINE=22389257; PubMed=1247, Magner L., Schaefer G.D., Marsich R.K., Schaefer C.F., Bhat N.K.,

MEDLINE=22389257; PubMed=1247, Magner L., Schaefer G.D., Marsich F.,

MEDLINE=22389257; PubMed=1247, Marsich E., Marsich E., Marsich E., Marsich E., Loguellaro N.J., Medle S., Carninci P., Mullaby S.J.,

MEDLINE=22389257; PubMed=12477932;

MEDLINE=22389257; PubMed=1247793;

MEDLINE=22389257; PubMed=1247793;

MEDLINE=22389257; PubMed=1247793;

MEDLINE=22389257; PubMed=1247;

MEDLINE=22389257; PubMed=1247793;

MEDLINE=22389257; PubMed=1247793;

MEDLINE=22389257; PubMed=1247793;

MEDLINE=2289257; PubMed=124779;

MEDLINE=2289257;

MEDLINE=2289257;

MEDLINE=2289257;

MEDLINE=2289257;

MEDLINE=2289257;

MEDLINE=2289257;

MEDLINE=2289257;

MEDLINE=2289257;

MEDLINE=228925
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Nat. Struct ablo. 7:224-229 (2000).

Nat. Struct ablo. 7:224-229 (2000).

-!- FUNCTION: REQUIRED FOR THE EXECUTION OF THE MITOTIC CHECKPOINT WHICH MONITORS THE PROCESS OF KINETOCHORE-SPINDLE ATTACHMENT AND DELAYS THE ONSET OF ANAPHASE WHEN THIS PROCESS IS NOT COMPLETE. IT INHIBITS THE ACTIVITY OF THE ANAPHASE PROMOTING COMPLETE. IT SEQUESTERING CDC20 UNTIL ALL CHROMOSOMES ARE ALIGNED AT THE METAPHASE PLATE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDIINE-59458684, PubMed=10527948, Neleon K.Y., Schlondorff J., Blobel C.P., Neleon K.Y., Schlondorff J., Blobel C.P., Evidence for an interaction of the metalloprocease-disintegrin tumour necrosis factor alpha convertase (TACE) with mitotic arrest deficient 2 (MAD2), and of the metalloprocease-disintegrin MDC9 with a novel Biochem. J. 343:673-680(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INTERACTION WITH CDC20.
MEDLINE-98301442; PubMed-9637688;
MEDLINE-98301442; RubMed-9637688;
Fang G., Yu H., Kirschner M.W.;
"The checkpoint protein MADZ and the mitotic regulator CDC20 form and checkpoint protein MADZ and the mitotic regulator CDC20 form ternary complex with the anaphase-promoting complex to control
                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
Klebert S., Barnikol-Watanabe S., Kratzin H.D., Hilschmann N.;
Submitted (OCT-1997) to the EMBL/GenBank/DDBJ databases.
[1]
SEQUENCE FROM N.A.
MEDLINE-96421709; PubMed-8824189;
Li Y., Benezra R.;
"Identification of a human mitotic checkpoint gene: hsWAD2.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRUCTURE BY NMR OF 11-195.
MEDLINE-20165182; PubMed=10700282;
Luo X., Fang G., Coldiron M., Lin Y., Yu H., Kirschner M.W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nobori T.;
Submitted (FEB-2001) to the EMBL/GenBank/DDBJ databases:
                                                                                                                                                                                                                               Jin D.-Y., Jeang K.-T.;
Submitted (JUL-1995) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Genes Dev. 12:1871-1883(1998).
                                                                                                                                             Science 274:246-248(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INTERACTION WITH ADAM17.
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                                                                                                                                                                                                 SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

SEQUENCE 199,

MEDLINE=20348739; PubMed=10892650;

MEDLINE=20348739; PubMed=10892650;

Dobles M., Liberal V., Scott M.L., Benezra R., Sorger P.K.;

Checkpoint protein Mad2.";

Cell 101:635-646(2000)

LICHICALON: REQUIRED FOR THE EXECUTION OF THE MITOTIC CHECKPOINT WHICH MONITORS THE PROCESS OF KINETOCHORE-SPINDLE ATTACHMENT AND DELAYS THE MONST OF ANAPHASE WHEN THIS PROCESS IS NOT COMPLETE. IT INHERTS THE ACTIVITY OF THE ANAPHASE PROMOTING COMPLEX BY SEQUESTERING CDC20 UNTIL ALL CHROMOSOMES ARE ALIGNED AT THE METAPHASE PLATE (BY SIMILARITY).

CHOUSTERING CDC20 UNTIL ALL CHROMOSOMES ARE ALIGNED AT THE METAPHASE PLATE (BY SIMILARITY).

CHOUSTERING SOUTH MAD2 FAMILY.

CHORDON TO SECUENCY THE MAD2 FAMILY.

CHORDON TO SECUENCY THE MAD2 FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
   MAD2L1 OR MAD2A.
Mus musculus (Mouse).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
(VGDI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                          SEQUENCE FROM N.A.
STRAIN=CS7BL/6J; TISSUE=Embryo;
Jin D.-Y., Jeang K.-T.;
"Identification of a novel component of the spindle assembly checkpoint in mammalian cells.";
Submitted (JAN-1997) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             h Similarity 100.0%; Score 19; DB 1; Length 205; Similarity 100.0%; Pred. No. 3.6e+02; 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Call cycle; Mitching Substantial Muclear protein.

DOMAIN 14 197 HORMA.

CONFLICT 157 157 T -> A (IN REF. 1).

CONFLICT 201 201 T -> I (IN REF. 1).

SEQUENCE 205 AA; 23598 MW; A9F3F28BC4C9738E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; U83902; AAD09238.1; -. BMBL; AF261919; AAF69525.1; -. BMBL; AF261919; AAF69525.1; -. MGD; MGI:1860374; DUU. CO:0000074; C: Mad211 GO; GO:000076; C: Materochore; IDA. GO; GO:000070; P: Mitotic chromosome segregation; GO; GO:000079; P: Mitotic chromosome segregation; IMP. GO; GO:000079; P: Mitotic spindle checkpoint; IMP. DEAM; PF02301; HORMA; 1.
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(Rel. 29, Last sequence update)
(Rel. 40, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE; PS50815; HORMA; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
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01-JUN-1994 (
16-OCT-2001 (
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P37033;
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YAC1 LEGPN
ID YAC1 LEGPN
AC P37033;
DT 01-JUN-
DT 16-OCT-
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0921B5, 09J153,
16-0CT-2001 (Rel. 40, Last sequence update)
10-0CT-2003 (Rel. 42, Last annotation update)
Mitotic spindle assembly checkpoint protein MAD2A (MAD2-like 1).
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                                                                                                                                                                                                                                                              EMBL; AJ0200186; CAA03943.1; --
EMBL; AB056160; BAB65410.1; --
EMBL; AB050156; BAB65410.1; --
EMBL; BC000346; A4400345.1; --
EMBL; BC000345; A4400345.1; --
EMBL; BC000345; AA400345.1; --
EMBL; BC000345; AA400345.1; --
EMBL; BC000346; AMAP201.
EMB, 1DUJ; 08-MAR-00.
Genew; HGNC:6763; MAD211.
EMB; 1DUJ; 08-MAR-00.
GO; GO; 0007065; P; mitcsis; TAS.
GO; GO; 0007065; P; mitcsis; TAS.
GO; GO; 0007065; P; mitcsis; TAS.
GO; GO; 0007067; P; mitcsis; TAS.
GO; GO; 0007067; P; mitcsis; TAS.
GO; GO; 0007087; P; mitcsis; TAS.
GO; GO; 0007087; P; mitcsis; TAS.
GO; GO; 0007087; P; mitcsis; TAS.
GO; GO; GO; HORMA; 1.
FROSTITE; PSS0815; HORMA; 1.
FROSTITE; PSS0815; HORMA; 1.
FROMAIN.
14 HORMA.
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                                                                                                                                                                                                                                    EMBL; U65410; AAC50781.1; -.
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Best Local Similarity 100.
Matches 4; Conservative
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344
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SEQUENCE
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Cucumovirus
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ID COAT CM
AC Q66120;
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                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the BYMIL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Utilization of host iron sources by Corynebacterium diphtheriae: identification of a gene whose product is homologous to eukaryotic heme oxygenases and is required for acquisition of iron from heme and
                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                     SEQUENCE FROM N.A.
SEQUENCE PROM N.A.
MEDLINE=93374864; PubMed=8366052;
MEDLINE=93374864; PubMed=836052;
Mengand J.M., Horwitz M.A.;
"The major iron-containing protein of Legionella pneumophila is an aconitase homologous with the human iron-responsive element-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN-BIOTYPE gravis / NCTC 13129;
MEDLINE-22965443; PubMed=14602910;
Cerdeno-Tarraga A.M., Efstratiou A., Dover L.G., Holden M.T.G., Pallen M., Bestratiou A., Churcher C., James K.D., De Zoysa A., Chillingworth T., Cronin A., Dowd L., Feltwell T., Hamlin N., Holroyd S., Jagels K., Moule S., Quail M.A., Rabbinowitsch E., Rutherford K.M., Thomson N.R., Unwin L., Whitehead S., Barrell B.G., Parkhill J.;
"The complete genome sequence and analysis of Corynebacterium diphtheriae NCTC13129.";
                                                                                                                                                                                                                                                                                                                                                                              ö
          Légionella pneumophila.
Bacteria; Proteobacteria; Gammaproteobacteria; Legionellales;
Legionellaceae; Legionella.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
Corynebacterineae; Corynebacteriaceae; Corynebacterium.
NCBI_TaxID=1717;
                                                                                                                                                                                                                                                                                                                                                    95.0%; Score 19; DB 1; Length 208; 100.0%; Pred. No. 3.6e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                    PIR; A48642; A48642.
Hypothetical protein.
SEQUENCE. 208 AA; 23714 MW; IESC75E63A20C800 CRC64;
Hypothetical 23.7 kDa protein in acn 5'region.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HAUGO CORDI STANDARD; PRT; 215 AA. P7115; P7115; P7115; P7115; P7115.DEC-1998 (Rel. 37, Created) F5-MAR-2004 (Rel. 43, Last sequence update) F5-MAR-2004 (Rel. 43, Last annotation update) F4-mem exygenase (EC 1.14.99.3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nucleic Acids Res. 31:6516-6523 (2003)
                                                                                                                                                             J. Bacteriol. 175:5666-5676(1993).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=97158681; PubMed=9006041;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         noglobin:";
Bacteriol: 179:838-845(1997);
                                                                                                                                                                                                                                                                                        EMBL; L22081; AAA25294.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Corynebacterium diphtheriae.
                                                                                                                                                                                                                                                                                                                                                                              4; Conservative
                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A. STRAIN=C7;
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                                                                                                                                                                                                                                                                                                                                                                                                                                45 VAEF 48
                                                                                                                                                                                                                                                                                                                                                                                                      2 VAEF 5
                                              NCBI_TaxID=446;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Schmitt M.P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     hemoglobin.
                                                                                                                                                protein."
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                                                                                                                                                                                                                                                 This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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-!- SIMILARITY: Belongs to the cucumoviruses/bromoviruses coat protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IRON (HEME AXIAL LIGAND) (BY SIMILARITY).

5 -> K (IN REF. 1).

5 -> V (IN REF. 1).

50 -> GS (IN REF. 1).

N -> H (IN REF. 1).
FUNCTION: Allows the bacteria to use the host heme as an iron source. Involved in the oxidation of heme and subsequent release of iron from the heme moiety.

CATALYTIC ACTIVITY: Heme + 3 AH(2) + O(2) = billverdin + Fe(2+) +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
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15-DEC-1998 (Rel. 37, Last sequence update)
15-DEC-1998 (Rel. 37, Last amnotation update)
Coat protein (Capsid protein) (CP).
Cucumber mosaic virus (strain Ixora) (CMV).
Viruses; ssRNA positive-strand viruses, no DNA stage; Bromoviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ô
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34 34 E -> K (IN REF. 1).
60 60 A -> V (IN REF. 1).
92 93 DG -> GS (IN REF. 1).
192 192 N -> H (IN REF. 1).
215 AA; 24116 MW, 60D9E8BZEDTED456 CRC64;
                                                                                                                                                CO + 3 A + 3 H(2)O. 
-1- SIMILARITY: Belongs to the heme oxygenase family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          218 AA.
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PIR; D71392; D71392.
InterPro; IPR000247; Cucumovirus_coat.
InterPro; IPR008975; Viral_cap_coat.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; U73860; AAC44832.1; -.
EMBL; BX248358; CAE50198.1; -.
HSSP; P09601; 1QQ8.
InterPro; IPR002051; Heme_oxygenase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF01126; Heme oxygenase; 1.
PRINTS; PR00088; HAEMOXYGNASE.
PROSITE; PS00593; HEME OXYGENASE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Heme; Oxidoreductase.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=97271300; PubMed=9126251; Ahrens C.H., Russell R.R., Funk C.J., Bvans J., Harwood S., Rohrmann G.F.; Lussell R.R., Punk C.J., Evans J., Harwood S., Rohrmann G.F.; The sequence of the Orgyia pseudotsugata multinucleocapsid nuclear
                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Orgyja pseudotsugata multicapsid polyhedrosís vírus (OpMNPV). Víruses; dsDNA víruses, no RNA stage; Baculoviridae; Nucleopolyhedrovírus.
                                                                                                                                              / Match 95.0%; Score 19; DB 1; Length 218; Local Similarity 100.0%; Pred. No. 3.88+02; No. 4; Conservative 0; Mismatches 0; Indels
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                                                                                                    218 AA; 24185 MW; 130E82D17BD75224 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Putative protein-tyrosine phosphatase 1 (EC 3.1.3.48).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL, U75930, AAC59009.1, -
Interpro; IPR00381, TYR phosphatase.
BOGITE, P850383, TYR PHOSPHATASE 1; FALSE_NEG.
PROSITE; PS50056; TYR_PHOSPHATASE_2; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                         PRT; 220 AA.
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Pfam; PF00760; Cucumo coat; 1.
PRINTS; PR00222; CUCUMOCOAT.
ProDom; PD001284; Cucumovirus_coat; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
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CR1_ARCFU STANDARD; E
C 029758;
T 10-OCT-2003 (Rel. 42, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                         STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=164623;
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                                                                                                                                                                                                                                                                                               96 VAEF 99
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                                                                            Coat protein.
SEQUENCE 210
                                                                                                                                                                                                                                                                                                                                                                                                                      PTP1 NPVOP
010274;
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Matches
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                                                                                                                                                                        SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
STRAIN=VC16 / Day COM 4304 / ATCC 49558;
MEDLINE=98049343; PubMed=9389475;
Klein H.-P., Clayton R.A., Tomb U.-F., White O., Nelson K.E.,
Ketchum K.A., Dodson R.J., Gwinn M., Hickey E.K., Peterson J.D.,
Richardson D.L., Kerlavage A.R., Graham D.E., Kyrpides N.C.,
Fleistenhamn R.D., Quackenbush J., Lee N.H., Sutton G.G. Gill S.,
Frikmess E.F., Dougherty B.A., McKenney K., Adams M.D., Loftus B.,
Peterson S., Reich C.I., McNeil L.K., Badger J.H., Glodek A., Zhou L.,
Overbeek R., Gocayne J.D., Weidman J.F., McDonald L., Utterback T.,
Sadow P.W., D'Andrea K.P., Bowman C., Fujii C., Garland S.A.,
Mason T.M., Olsen G.J., Fraser C.M., Smith H.O., Woese C.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                "The complete genome sequence of the hyperthermophilic, sulphate-reducing archaeon Archaeoglobus fulgidus ";
Nature 390:364-370(1997).
-i- FUNCTION: Probably involved in degradation of a variety of RNA species; could act a RNA-binding component of the exosome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 95.0%; Score 19; DB 1; Length 223; 100.0%; Pred. No. 3.9e+02; ative 0; Mismatches 0; Indels
                                                                                        Archaea; Buryarchaeota; Archaeoglobi; Archaeoglobales;
Archaeoglobaceae; Archaeoglobus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 223 AA; 24725 MW; A11B7F1A26972833 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10-OCT-2003 (Rel. 42, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Probable exosome complex RNA-binding protein 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PROSITE; PSS0084; KH TYPE 1; 1.
PROSITE; PSS0126; S1; 1.
Exosome; RNA-binding; Complete proteome.
DOMAIN 58 127 S1 MOTIF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HAMAP, MF_00623; -; 1.
InterPro; IPR004087; KH dom.
InterPro; IPR004089; KH-type_1.
InterPro; IPR008994; Nucleic_acid_OB.
InterPro; IPR003029; S1.
Pfam; PF00013; KH; 1.
Pfam; PF000575; S1; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BMBL; AE001070; AAB90745.1; -. PIR; D69311; D69311.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity 100.0
Matches 4; Conservative
                                                                    Archaeoglobus fulgidus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SMART; SM00322; KH; 1.
SMART; SM00316; S1; 1.
                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 209 VAEF 212
                                                                                                                           NCBI TaxID=2234;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 VAEF 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TIGR; AF0492;
                                                                                                                                                                                                                                                                                                                                                                                                      Venter J.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
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RESULT 67 RAN\_TETPY

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-:- SUBUNIT: Monomer.
-:- SUBCELIULAR LOCATION: Nuclear (By similarity).
-:- SUBCELIULAR LOCATION: Nuclear (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P412-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
28-FSB-2003 (Rel. 41, Last annotation update)
28-FSB-2003 (Rel. 41, Last annotation update)
Tetrahymen thermophila.
Finkarvota; Alveolata; Ciliophora; Oligohymenophorea; Hymenostomatida;
                                                                                                                                                                                                        "V-type H+-Arpase/synthase from a thermophilic cubacterium, Thermus thermophilus. Subunit structure and operon.";
J. Biol. Chem. 275:13955-13961 (2000).
-!-FUNCTION: Produces ATP from ADP in the presence of a proton gradient across the membrane.
-!- CATALYTIC ACTIVITY: ATP + H(2)O + H(+)(In) = ADP + phosphate +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Cloning of cDNAs encoding a cell-cycle-regulatory GTP-binding low-M(r) (GBLM) protein, Ran/TC4, from micronucleated Tetrahymena thermophila and amicronucleated Tetrahymena pyriformis."; Gene 144:123-125(1994).
                                                                                               SEQUENCE FROM N.A.
STRAIN-HBB / ATCC 27634;
MEDLINE=20250964; PubMed=10788522;
Yokoyama K., Ohkuma S., Taguchi H., Yasunaga T., Wakabayashi T.,
Yoshida M.;
Bacteria; Deinococcus-Thermus; Deinococci; Thermales; Thermaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN=B1868;
MEDLINE-94299154; PubMed=8026746;
Nagata K.-I., Takemasa T., Alam S., Hattori T., Watanabe Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 1; Length 223; 3.9e+02; Indels
                                                                                                                                                                                                                                                                                                                                                         H(+)(Out).
-!- SIMILARITY: Belongs to the V-ATPase D subunit family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR002699; ATP8ynt_Deub.
Pfam; PP01811; ATP-synt_D; 1.
ProDom; PD004122; ATP8ynt_Deub; 1.
TIGRPAMS; TIGR00309; V ATPaes cubD; 1.
Hydrolaes; ATP synthesIs; Hydrogen ion transport.
SEQUENCE 223 AA; 24677 MW; B666AE00DFE0B08B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              95.0%; Score 19; DB 100.0%; Pred. No. 3.5 tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HAMAP; MF_00271; -; 1.
InterPro; IPR002699; ATPsynt_Dsub.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; D63799; BAA33198.2; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bukaryota, Alveolata, Cilio
Tetrahymenina, Tetrahymena.
NCBI_TaxID=5911;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity 100.
Matches 4; Conservative
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SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 VAEF 5
                                   Thermus.
NCBI_TaxID=274;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Nozawa Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RAN TETTH
P41915;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
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RAN_TETTH
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its most by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gene 144:123-125(1994).
-!- FUNCTION: GTP-binding protein involved in nucleocytoplasmic transport. Required for the import of protein into the nucleus and also for RNA export. Involved in chromatin condensation and control of cell cycle (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VATO THETH

ID VAID THETH

STANDARD; PRT; 223 AA.

LO 087850;

DT 16-OCT-2001 (Rel. 40, Created)

DT 16-OCT-2001 (Rel. 43, Last sequence update)

DT 15-MAR-2004 (Rel. 43, Last annotation update)

DT 15-MAR-2004 (Rel. 43, Last annotation update)

SE V-type AIP synthase subunit D (EC 3.6.3.14) (V-type AIPase subunit D).

AIPD OR VAID.

SA Thermus thermophilus.
                                             01-NOV-1995 (Rel. 32, Created)
01-NOV-1995 (Rel. 32, Last sequence update)
28-FBB-2003 (Rel. 41, Last annotation update)
28-FBB-2003 (Rel. 41, Last annotation update)
Tetrahymena pyriformis.
Tetrahymena pyriformis.
Eukaryota, Alveolata; Ciliophora; Oligohymenophorea; Hymenostomatida;
NCBI_TaxID=5908;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -i - SUBCELLULAR LOCATION: Nuclear (By similarity).
                                                                                                                                                                                                                                                                                                              MEDILINE=94299154; PubMed=8026746; Mattori T., Watanabe Y., Nagata K.-I., Takemasa T., Alam S., Hattori T., Watanabe Y., Nozawa Y.; "Cloning of cDNAs encoding a cell-cycle-regulatory GTP-binding low-M(r) (CBLM) protein, Ran/TC4, from micronucleated Tetrahymena thermophila and amicronucleated Tetrahymena
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25 GTP (BY SIMILARITY).
70 GTP (BY SIMILARITY).
126 GTP (BY SIMILARITY).
1143 IBB (BY SIMILARITY).
25422 MW, 5474DADB5ABF0977 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INTERPORT INTERPORTATION THAT INTERPORT INTERPORT INTERPORT IPRO01016; Ras trnsfrmug.
INTERPORT IPRO01225; Small_GTP.
INTERPORT IPRO0421; FAST INTERPORT IPRO0449; FASTRNSFRMG.
PRINTS; PRO0449; FASTRNSFRMG.
SWART; SMO0176; RAN; I.
IGRFAMG; TIGR00211; small_GTP; I.
PROSITE; PS01115; RAN; I.
RTP-binding; Nuclear protein, transport.
NP_BIND 18 25 GTP (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              95.0%; Score 19; DB 1; Li
100.0%; Pred. No. 3.9e+02;
               223 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Pred. No. 3.9
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; D21825; BAA04849.1; -.
HSSP; P17080; 1A2K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4; Conservative
               STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUBUNIT: Monomer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      223 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
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NP_BIND
DOMAIN
SEQUENCE
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Best Loc Matches

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RESULT 68

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Gaps

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NADD PSEPK
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SEQUENCE FROM N.A.
MEDLINE=89293088; PubMed=2661722;
Gombart A.F., Blissard G.W., Rohrmann G.F.;
Gombart A.F., Blissard G.W., Rohrmann G.F.;
"Characterization of the genetic organization of the HindIII M region of the multicapsid nuclear polyhedrosis virus of Orgyia pseudotsugata reveals major differences among baculoviruses.";
J. Gen. Virol. 70:1815-1828(1989).
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "The sequence of the Orgyia pseudotsugata multinucleocapsid nuclear polyhedrosis virus genome."; 
virology 229:381-399(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAR-1992 (Rel. 21, Created)
01-MAR-1992 (Rel. 21, Last sequence update)
01-NOV-1997 (Rel. 35, Last annotation update)
Hypothetical 26.0 kDa protein in PD34-EXO intergenic region (ORF Orgyla pseudotengata multicapsid polyhedrosis virus (OpMNPV).
Viruses; dsDNA viruses, no RNA stage; Baculoviridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=97271300; PubMed=9126251;
Ahrens C.H., Russell R.R., Funk C.J., Evans J., Harwood S.,
Rohrmann G.F.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 225;
                                                                                                                                                                                                                                                                                                                                                                                       18 25 GTP (BY SIMILARITY).
66 70 GTP (BY SIMILARITY).
123 126 GTP (BY SIMILARITY).
128 143 IBB (BY SIMILARITY).
225 AA, 25649 MW, 69F8B8409AF703F8 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   95.0%; Score 19; DB 1; Le
100.0%; Pred. No. 3.9e+02;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                     r protein; Protein transport
25
                                                                                                                                                                                                                                                                                                                SMART; SMO0176; RAN; 1.
TIGREPARS; TIGREPS 1. small_GTP; 1.
PROSITE; PS01115; RAN; 1.
GTP-binding; Nuclear protein; Protei
NP BIND 18 25 GTP (BY
NP BIND 66 70 GTP (BY
NP BIND 123 126 GTP (BY
                                                                                                                                                               EMBL; D17748; BAA04600.1; --
HSSP; P17080; 1A2K.
InterPro; IPR002041; RAN.
InterPro; IPR010806; Ras_trnsfrmng.
InterPro; IPR05255; Small_GTP.
Pfam; PP00071; ras; 1.
                                                                                                                                                                                                                                                                            PRINTS; PR00627; GTPRANTC4.
PRINTS; PR00449; RASTRNSFRMNG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nucleopolyhedrovirus.
NCBI_TaxID=164623;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9 VAEF 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 VAEF 5
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P24080;
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32_NPVOP
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HAVARP; NF 00244; -.; 1.
InterPro; IPR004820; Cytidylyltransf.
Pfam; PP01467; CTP transf 2; 1.
Pyridine nucleotide blosynthesis; Transferase; Nucleotidyltransferase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -1- CATALYTIC ACTIVITY: ATP + nicotinate ribonucleotide = diphosphate + deamido-NAD(+).
                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-22423060; PubMed=12534463;
MEDLINE-22423060; PubMed=12534463;
Melson K.E., Weinel C., Paulsen I.T., Dodson R.J., Hilbert H.,
Martins dos Santos V.A.P., Fouts D.E., Gill S.R., Pop M., Holmes M.,
Brinkac I., Beanan M., DeBoy R.T., Daugherty S., Kholmay J.,
Madupu R., Nelson W., White O., Peterson J., Khouri H., Hance I.,
Chris Lee P., Holtzapple E., Scanlan D., Tran K., Moazzez A.,
Utterback T., Rizzo M., Lee K., Kosack D., Moestl D., Wedler H.,
Lauber J., Stjeppandic D., Hoheisel J., Straetz M., Heim S.,
Kiewitz C., Eisen J.A., Timmis K.N., Duesterhoeft A., Tuemmler B.,
Fraser C.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10-0CT-2003 (Rel. 42, Created)
10-0CT-2003 (Rel. 42, Last sequence update)
10-0CT-2003 (Rel. 42, Last annotation update)
Probable nicotinate-nul-cotide adenylyltransferase (EC 2.7.7.18)
(Deamido-NAD(+) pyrophosphorylase) (Deamido-NAD(+) diphosphorylase)
(Nicotinate mononucleotide adenylyltransferase) (NaMN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Complete genome sequence and comparative analysis of the metabolically versatile Pseudomonas putida KT2440.";
Environ. Microbiol. 4:799-808(2002).
-!- FUNCTION: Catalyzes the reversible adenylation of nicotinate mononuclectide (NaMN) to nicotinic acid adenine dinucleotide (NaMN) (By similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pseudomonas putida (strain KT2440).
Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales;
Pseudomonadaceae; Pseudomonas.
                                                                                                                                                                                                                                                                                                    ;
0
                                                                                                                                                                                                                         DB 1; Length 228;
4e+02;
hes 0; Indels
EMBL; D13796; BAA02952.1; -.
EMBL; D13929; BAA03030.1; -.
EMBL; U75303, AAC59129.1; -.
PIN; D30857; D30857.
PHYPOCHETICAL protein; Late protein.
SEQUENCE 228 AA; 25962 NW; F0766AD21F60039D CRC64;
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230 AA; 25291 MW; 4CF04E8F70E48941 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            230 AA

    + deamido-NAD(+).
    -! - PATHWAY: NAD biosynthesis.
    -! - SIMILARITY: Belongs to the nadD family.

                                                                                                                                                                                                                                                                 100.0%; Pred. No. acrive 0; Mismatches
                                                                                                                                                                                                                                    95.0%; Score 19; 100.0%; Pred. No.
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                                                                                                                                                                                                                                                                                                           4; Conservative
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=160488;
                                                                                                                                                                                                                                                                                                                                                                                                                                     84 VAEF 87
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SEQUENCE 230
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PRT;

STANDARD;

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28FSB3;
10-OCT-2003
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01-0CT-1996 (Rel. 34, Last sequence update)
28-FBE-2003 (Rel. 41, Last annotation update)
Chloroplast 30S ribosomal protein S3.
Porphyra purpurea.
Chloroplast.
Bukaryota; Rhodophyta; Bangiophyceae; Bangiales; Bangiaceae; Porphyra.
NCBI_TaxID=2787;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gарв
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Reith M.E., Munholland J.; "Complete nucleotide sequence of the Porphyra purpurea chloroplast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             genome.";
Plant Mol. Biol. Rep. 13:333-335(1995).
-!- SUBUNIT: Part of the 30S ribosomal subunit.
-! SUBCELLULAR LOCATION: Chloroplast.
-!- SUBCIELLIY: Belongs to the S3P family of ribosomal proteins.
-!- SIMILARITY: Contains 1 KH type-2 domain.
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R InterPro; IPR004087; KH dom.

R InterPro; IPR004044; KH TVPE 2.

R InterPro; IPR004044; KH TVPE 2.

R InterPro; IPR001351; Ribosomal S3 C.

R InterPro; IPR001351; Ribosomal S3 C.

R InterPro; IPR001351; Ribosomal S3 C.

R Pfam; PF001013; KH; 1.

R Pfam; PF0010109; TPSC bact; 1.

R PROSTIE; PS50823; KH TYPE 2; 1.

R PROSTIE; PS50823; RIBOSOMAL S3; 1.

R RIBOSOMAL S3; 1.0

R RIBOSOMAL S3; 1.0

R RIBOSOMAL S3; 1.

R ROSTIE; PS50823; RIBOSOMAL S3; 1.
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Query Match 95.0%; Score 19; DB 1; Length 230; Best Local Similarity 100.0%; Pred. No. 4e+02; Matches 4; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
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P51308;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
STRAIN=YS-314 / AJ 12310 / DSM 44549 / JCM 11189;
MEDLINE=22723752; PubMed=12840036;
Nishio Y., Nakamura Y., Kawarabayasi Y., Usuda Y., Kimura E.,
Sugimoto S., Matsui K., Yamagishi A., Kikuchi H., Ikeo K.,
Gojobori T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Union (Rel. 42, Created)
10-007-2003 (Rel. 42, Last sequence update)
10-007-2003 (Rel. 42, Last sequence update)
10-007-2003 (Rel. 42, Last annotation update)
10-007-2003 (Rel. 42, Last annotation)
10-007-2003 (Rel. 42, Last
10-OCT-2003 (Rel. 42, Created)
10-OCT-2003 (Rel. 42, Last sequence update)
10-OCT-2003 (Rel. 42, Last annotation update)
Menaquinone biosynthesis methyltransferase ubis (EC 2.1.1.-).
                                                                                                                                                                                                                                                                                                    Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
Corynebacterineae; Corynebacteriaceae; Corynebacterium.
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InterPro; IPR001601; Methyltransf.
InterPro; IPR001601; SAM bind.
InterPro; IPR004033; UbiE/COO5_Metrf.
Pfam; PF01209; Ubie methyltran; 1.
PROSITE; PS01183; UBIE_1; PALSE_NEG.
PROSITE; PS01184; UBIE_2; PALSE_NEG.
Menaquinone biosynthesis; Transferase; Methyltransferase;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             230 AA; 25366 MW; E10DCB602A1CD886 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            s-adenosyl-L-homocysteine + menaquinol.
-!- PATHWAY: Menaquinone biosynthesis; last step.
-!- SIMILARITY: Belongs to the ubiE family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; AP005215; BAC17291.1; ALT_INIT.
                                                                                                                                                                                                                                                         Corynebacterium efficiens.
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SEQUENCE 230 AA;
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UBIE CORGI

1D UBIE CORGI

AC QBNT3;
DT 10-OCT-2003
DT 10-OCT-2003
DE Menaquinone
GN UBIE OR CGLO
OS Corynebacter
OC Corynebacter
OC Corynebacter
OC Corynebacter
OC Corynebacter
CC CORSI TAXID=1
RN [1]
RP SEQUENCE FRC
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118 VAEF 121

ESULT 73 BIE\_COREF

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Query Match
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                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                            "Complete genomic sequence of Corynebacterium glutamicum ATCC 13032.";
Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: Methyltransferase required for the conversion of dimethylmenaquinone (DMCH2) to menaquinone (MCH2) (By similarity).
-!- CATALYTIC ACTIVITY: S-adenosyl-L-methionine + demethylmenaquinol =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
SPECIES=B.coli, STRAIN-KI2 / MG1655;
BEDLINE=P426617; PubMed=9278503;
Blattner F.R., Plunkett G. III, Bloch C.A., Perna N.T., Burland V.,
Riley M., Collado-Vides J., Glasner J.D., Rode C.K., Mayhew G.F.,
Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J.,
"The Complete genome sequence of Escherichia coli K-12.";
Science 277:1453-1474(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Yang T.-P., Depew R.E.;
"Nucleotide sequence of a region duplicated in Escherichia coli toc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;
Enterobacteriaceae; Escherichia.
NCBI_TaxID=562, 217992, 623;
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                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 95.0%; Score 19; DB 1; Length 230; Best Local Similarity 100.0%; Pred. No. 4e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                             HAMAP; MF 01813; -; 1.
InterPro; IPR001601; Methyltransf.
InterPro; IPR0040031; Mahyltransf.
InterPro; IPR004033; UbiE/COQ5 Metrf.
Pfam; PF01209; Ubie methyltran; 1.
PROSITE; P$01183; UBIE 1; PALSE NEG.
PROSITE; P$01183; UBIE 2; PALSE NEG.
Menaquinone biosynthesis; Transferase; Methyltransferase;
                                                                                                                                                                                                                                                                                                                                                                                                          230 AA; 25244 MW; A8548173B7901400 CRC64;
                                                                                                 s-adenosyl-L-homocysteine + menaquinol.
-!- PATHWAY: Menaquinone biosynthesis; last step.
-!- SIMILARITY: Belongs to the ubiE family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-MAR-1992 (Rel. 21, Created)
01-MAR-1992 (Rel. 21, Last sequence update)
10-0CT-2003 (Rel. 42, Last annotation update)
Hypotherical protein ygis.
YGIB OR B3037 OR C3783 OR SF3077 OR S3282.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT; 234 AA
STRAIN-ATCC 13032 / DSM 20300 / NCIB 10025;
Nakagawa S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Biochim. Biophys. Acta 1130:227-228(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SPECIES=E.col1;
MEDLINE=92223101; PubMed=1314093;
                                                                                                                                                                                                                                                                EMBL; AP005275; BAB97864.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Escherichia coli,
Escherichia coli 06, and
Shigella flexneri.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                               Complete proteome SEQUENCE 230 AA
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SEQUENCE FROM N.A.
SPECIESEE.CO.01; STRAIN=06:HI / CFT073 / ATCC 700928;
SPECIESEE.CO.01; STRAIN=06:HI / CFT073 / ATCC 700928;
WHEDLINE=22386234; PubMed=12471157;
WHEDLINE=22386324; PubMed=12471157;
WHELLINE—SERVED TO. STRAIN TO. Rosech P., Rosech P.,
Rasko D., Buckles E.L., Liou S.-R., Buckin A., Hackett J., Stroud D.,
Mayhew G.F., Rose D.J., Shou S., Schwartz D.C., Perna N.T.,
Mobley H.L.T., Donnenberg M.S., Blattner F.R.;
"Extensive mesalc structure revealed by the complete genome sequence of uropathogenic Bscherichia coli.";
Proc. Natl. Acad. Sci. U.S.A. 99:17020-17024(2002).
                                                                                                                                                                                                                                                                                                                                                                                                               SPECIES-S.flexneri; STRAIN=301 / Serotype 2a, MEDLINE-22272406; PubMed=12384590; Jin Q., Yuan Z., Xu J., Wang Y., Shen Y., Lu W., Wang J., Liu H., Yang J., Yang G., Wu H., Qu D., Dong J., Yang T., Xue Y., Zhao A., Zhang J., Xang G., Wu H., Qu D., Dong J., Suu L., Xue Y., Zhao A., Gao Y., Zhu J., Kan B., Ding K., Chen S., Cheng H., Yao Z., He B., Chen R., Ma D., Qiang B., Wen Y., Hou Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Genome sequence of Shigella flexneri 2a: insights into pathogenicity through comparison with genomes of Escherichia coli K12 and O157."; Nucleic Acids Res. 30:4432-4441(2002).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PIR; S22360; S22360.
Bcodene; BG11164; ygil.
Hypothetical protein; Complete proteome.
SEQUENCE 234 AA; 24868 MW; 08D5DE931072C966 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL, AE000385, AAC76073.1; -.
EMBL, AE016766, AAM8227.1; -.
EMBL, AE016319; AAN44555.1; ALT_INIT.
EMBL, AE016388; AAN483681; -.
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Job time : 58.5714 secs
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EMBL; U28377; AAA69205.1; -.
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Q91518 oryctolagus
Q97550 nitrosomona
Q97550 nitrosomona
Q92518 helicobacte
Q82219 pyrobaculum
Q94477 equus cabal
Q48420 ktebsiella
Q83009 enterocococu
Q25478 helicobacte
Q7ux15 rhodopirell
Q44491 bacillus br
Q8x398 escherichia
Q8x398 holicoverpa
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01-0CT-2001 (TTEWBLrel. 18, Created)
01-0CT-2001 (TTEWBLrel. 18, Last sequence update)
01-0CT-2003 (TTEWBLrel. 25, Last annotation update)
Myosin regulatory light chain 2 (MLC-2) (Fragment).
Bombyx mori (Silk moth).
Bukaryota, Metazoa, Arthropoda, Hexapoda, Insecta; Pterygota;
Bombyciara; Endopterygota; Lepidoptera; Glossata; Ditrysia; Bombycoidea;
NCBI_TAXID=7091;
                                                                                                                                                                                                                                                            SEQUENCE.

MEDLINE-39224468; PubMed=8185668;
MCTGAVISH H., LaQuier F., Arciero D., Logan M., Mundfrom G.,
MCTGAVISH H., LaQuier F.,
Fuchs J.A., Hoper A.B.;
"Multiple copies of genes coding for electron transport proteins in
the bacterium Nitrosomonas europaea.";
J. Bacteriol. 175:2445-2447(1993).
SEQUENCE 22 AA; 2549 MW; C22664FSEEICE75F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Protein database for several tissues derived from five instar of
                                                                                                                                                                                                  Bacteria; Proteobacteria; Betaproteobacteria; Nitrosomonadales; Nitrosomonadaceae; Nitrosomonas. Nitrosomonas. Nitrosomonas. 17. TaxID=915;
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100.0%; Pred. No. 3.48+02;
tive 0; Mismatches 0; Indels
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MEDLINE=21177481; PubMed=11280994;
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                                                                                                                             01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAY-2000 (TrEMBLrel. 14, Last annotation update)
Cytochrome P-460 (Fragment)
Nitrosomonas europaea.
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Q9R5C0;
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Q9R5C0
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Q854x2 mycobacteri
Q81ag7 arabidopsis
P97827 rattus norv
O922j2 cricetulus
C81244 bacillus ce
081245 archaeoglob
C9x5f7 zymomonas m
084ud0 neisseria g
G7xe27 oryza satio
C7xe27 oryza satio
C9qz21 mus musculu
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAY-2000 (TrEMBLrel. 25, Last annotation update)
01-CCT-2003 (TrEMBLrel. 25, Last annotation update)
Cytocoxin-binding protein (Fragment).
Oryctolagus cuniculus (Rabbit).
Bukaryota; Metzazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Butheria; Lagomorpha; Leporidae; Oryctolagus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95.0%; Score 19; DB 6; Length 20; 100.0%; Pred. No. 3.1e+02; rive 0; Mismatches 0; Indels
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Q8VGA9
Q8FECO
Q8TEQ1
Q8TQ14
Q8TQ14
Q9COZ8
Q9SW32
Q9SW32
Q9SW32
Q9SW32
               Q8LAG7
P97827
Q92272
Q81274
Q30168
Q9X5F7
Q83UD0
Q7WZ93
Q97UZ93
Q961G35
Q8LGB9
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Q9LD47
Q8LFT4
Q8LKN3
Q9LUF3
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Matches 4; Conservative
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Gaps

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Length 35;

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EMBL; AE009770; AAL62822.1; -.
Hypothetical protein; Complete proteome.
SEQUENCE 35 AA; 3934 MW; A324B4F94F6A14BB CRC64;
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95.0%; Score 19; DB 17; L
Best Local Similarity 100.0%; Pred. No. 5.4e+02;
Matches 4; Conservative 0; Mismatches 0;
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GO; GO:0008199; F:ferric iron binding; IEA.
GO; GO:0006826; P:ferric iron binding; IEA.
GO; GO:0006826; P:fron ion homeostaals; IEA.
GO; GO:006826; P:fron ion transport; IEA.
InterPro; IPR001156; Transferrin.
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SEQUENCE 36 AA; 3802 MW; E2DDD122186D5FA8 C
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01-MAY-2000 (TrEMBLrel, 13, C;
01-MAY-2000 (TrEMBLrel, 13, Ls
01-OCT-2003 (TrEMBLrel, 25, Ls
Transferrin (Fragment).
Equus caballus (Horse).
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SEQUENCE FROM N.A.
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048420
048420
DG 04842
AC Q484420
DD 01-NN
DD 01
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Q97QR7

10 Q97QR7

10 Q91QR7

10 Q1-M

DT 01-M

        SKR
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SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDLINE=26595 / ATCC 700392;
MEDLINE=27394467; PubMed=9252185;
Tomb J.-F., White O., Kerlawage A.R., Clayton R.A., Sutton G.G., Fleischmann R.D., Ketchum K.A., Klenk H.-P., Gill S., Dougherty B.A., Nelson K., Quackenbush J., Zhou L., Kirkness B.F., Peterson S., Loftus B., Richardson D., Dodson R., Khalak H.G., Glodek A., McKenney K., FitzGerald L.M., Lee N., Adams M.D., Hickey B.K., Pererson D.E., Outcon M.D., Weldman J.M., Fulil C., Bowman C., Watthey L., Wallin B., Hayes W.S., Borodovsky M., Karp P.D., Smith H.O., Fraser C.M.,
        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Helicobacter pylori (Campylobacter pylori).
Bacteria; Proteobacteria; Epsilonproteobacteria; Campylobacterales;
Helicobacteraceae; Helicobacter.
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SEQUENCE FROM N.A.

MEDLINE=21664397; PubMed=11792869;

Fitz-clibbon S.T., Ladner H., Kim U.-J., Stetter K.O., Simon M.I.,

Miller J.H.;

Miller J.H.;

Genome sequence of the hyperthermophilic crenarchaeon Pyrobaculum
aerophilum.";

Proc. Natl. Acad. Sci. U.S.A. 99:984-989(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "The complete genome sequence of the gastric pathogen Helicobacter
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        0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           pylori.";
Nature 388:539-547(1997).
BMBL; AE000596; AAD07920.1; -.
PIR; G64625.
FIR; HP0487; -.
Hypothetical protein; Complete proteome.
SEQUENCE 33 AA; 3704 MW; FA3F52631C0DB943 CRC64;
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01-MAR-2002 (TrEMBLrel. 20, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
Hypothetical protein PAE0485.
                                                                                                                                                                                                                                                                                                                                                                                                                                              01-JAN 1998 (TrEMBLrel. 05, Created)
01-JAN-1998 (TrEMBLrel. 05, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
Hypothetical protein HP0847.
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95.0%; Score 19; DB 16; La Best Local Similarity 100.0%; Pred. No. 5.1e+02; Matches 4; Conservative 0; Mismatches 0;
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        Mismatches
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Thermoproteaceae, Pyrobaculum
NCBI_TaxID=13773;
    4; Conservative
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                                                                                                                                                                   13 VAEF 16
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        Matches
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ZZ19
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A Giffard J.M., Brandon R.B., Bell T.K.;
Giffard J.M., Brandon R.B., Bell T.K.;

"Further identification of single nucleotide polymorphisms in the "Further Identification of single nucleotide polymorphisms in the guine transferrin gene.";

L Submitted (GEP-1999) to the EMBL/GenBank/DDBJ databases.

R EMBL, AF185729; AAF05508.1; -.

R EMBL, AF185724; AAF05501.1; -.

R EMBL, AF185724; AAF05503.1; -.

R EMBL, AF185725; AAF05503.1; -.

R EMBL, AF185725; AAF05506.1; -.

R EMBL, AF185726; AAF05506.1; -.

R EMBL, AF185729; AAF05506.1; -.

R EMBL, AF185728; AAF05506.1; -.

R EMBL, AF185729; AAF05506.1; -.

R EMBL, AF185729; AAF05506.1; -.
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046420 PRELIMINARY; PRT; 44 AA.

048420;

01-NOV-1996 (TrEMBLrel. 01, Last sequence update)

01-NOV-1996 (TrEMBLrel. 01, Last sequence update)

01-OCT-2003 (TrEMBLrel. 25, Last annotation update)

Hypothetical protein (Fragment).

Kabbsiella pneumoniae.

Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacterials

Enterobacteriaceae; Klebsiella.
                                                                                                                        Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Perissodactyla, Equidae, Equus.
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Last sequence update)
Last annotation update)
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100.0%; Pred. No. 5.6e+02;
ative 0; Mismatches 0;
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48 AA

70

STRAIN=ATCC 25955;

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Last sequence update)
Last annotation update)
                                                                                                                      Created)
                                                           PRT;
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                                                                                                                01-JAN-1998 (TrEMBLrel. 05, 01-JAN-1998 (TrEMBLrel. 05, 01-JUN-2003 (TrEMBLrel. 24,
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                                                                                                                                                                                                    Hypothetical protein HP0789, HP0789.
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STRAIN=26695 / ATCC 700392;
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                                                           PRELIMINARY;
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01-OCT-2003
01-OCT-2003
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                                                        025478
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RESULT 9
025478
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STRAIN-V583 / ATCC 708802;
STRAIN-V583 / ATCC 708802;
MEDLINE-22550857; Pubmed-12663927;
Paulsen I.T., Banerjei L., Myers G.S.A., Nelson K.E., Seshadri R., Read T.D., Fouts D.E., Bisen J.A., Gill S.R., Heidelberg J.P., Tettelin H., Dodson R.J., Umayam L., Brinkac L., Beanan M., Daugherty S., DeBoy R.T., Durkin S., Kolonay J., Madupu R., Nelson W., Vamathevan J., Tran B., Upton J., Hansen T., Shetty J., Khouri H., Utterback T., Radune D., Ketchum K.A., Dougherty B.A., Fraser C.M.; "Role of mobile DNA in the evolution of vancomycin-resistant
   Willard B.L.;
"Investigation of the Klebsiella pneumoniae 1,3-propanediol pathway:
"Investigation and expression of glycerol dehydratase and 1,3-
propanediol oxidoreductase.";
Thesis (1994), Chemical Engineering, University of Wisconsin-Madison.
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Bacteria; Firmicutes; Lactobacillales; Enterococcaceae; Enterococcus.
NCBI_TaxID=1351;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               95.0%; Score 19; DB 2; Length 44; 100.0%; Pred. No. 6.8e+02; tive 0; Mismatches 0; Indels
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45 AA; 5278 MW; 89CBSSFSCB4C014A CRC64;
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Last annotation update)
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GO; GO:0005215; F:transporter activity; IEA.
GO; GO:0006810; P:transport; IEA.
FOR GO:0006810; P:transport; IEA.
Pfam; PF00230; MIP; 1.
Probon; PD000295; MIP; 1.
Probon; PD000295; MIP family; 1.
NOVITER 44 44 44
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EMBL; AE016955; AAO82500.1; -.
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HSSP; P11244; 1FX8.
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Best Local Similarity 100.
Matches 4; Conservative
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Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                    SEQUENCE FROM N.A
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01-JUN-2003 ('01-JUN-2003 ('01-JUN-2
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MEDLINE=97394467; PubMed=9252185;
Tomb U.F., White O., Kerlavage A.R., Clayton R.A., Sutton G.G.,
Fleischmann R.D., Kertchum K.A., Klenk H.-P., Gill S., Dougherty B.A.,
Nelson K., Quackenbush J., Zhou L., Kirkness B.F., Peterson S.,
Loftus B., Richardson D., Dodson R., Khalak H.G., Glodek A.,
McKenney K., FitzGerald L.M., Lee N., Adams M.D., Hickey E.K.,
Cotton M.D., Weidman J.D., Utterback T.R., Peterson J.D., Kelley J.M.,
Cotton M.D., Weidman J.M., Pujil C., Bowman C., Watthey L., Wallin E.,
Hayes W.S., Borodovsky M., Karp P.D., Smith H.O., Fraser C.M.,
Helicobacter pylori (Campylobacter pylori).
Bacteria; Proteobacteria; Epsilonproteobacteria; Campylobacterales;
Helicobacteraceae; Helicobacter.
NCBI_TaxID=210;
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                                                                                                                                                                                                                                                                                                                                                                                                                                              complete genome sequence of the gastric pathogen Helicobacter
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Planctomycetaceae, Pirellula.
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Hypothetical protein; Complete proteome.
SEQUENCE 48 AA; 5492 MW; ED5911D96F57BFEB CRC64;
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BERL, BX294135, CAP71991.1; --
Hypothetical protein; Complete proteome.
SEQUENCE 51 AA; 5951 WW; 60F62389C0FDA6A7 CRC64;
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Last sequence update)
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100.0%; Pred. No. 7.3e+02;
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us-09-594-978a-1.rspt

SULT 11

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MEDITRE-2288234; PubMed-12471157;
Welch R.A., Burland V., Plunkett G. III, Redford P., Rosech P.,
Rasko D., Buckles E.L., Liou S.-R., Boutin A., Hackett J., Stroud D.,
Mayhew G.F., Rose D.J., Zhou S., Schwartz D.C., Perna N.T.,
Mobley H.L.T., Donnenberg M.S., Blattner F.R.;
"Extensive mosaic structure revealed by the complete genome sequence
of uropathogenic Escherichia coli.";
Proc. Natl. Acad. Sci. U.S.A. 99:17020-17024 (2002).

EMBL, AEDIGFS9; AAN79938.1; -
SEQUENCE 54 AA; 5322 MW; 6B3C3D0F21ED4376 CRC64;
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Submitted (MAY-2001) to EMBL, ARS86526, AAL7257.1;
EMBL, ARS86526, AAL72547.1;
Hypothetical protein; Plasmid DNA; IEA.
Hypothetical protein; Plasmid PRC17B10B28GBFC CRC64;
SEQUENCE 61 AA, 6858 MW; PICC17B10B28GBFC CRC64;
                                                                                                                                                                                                                                                                                                                         Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;
Enterobacteriaceae; Escherichia.
NCBI_TaxID=217992;
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Enterobacteriaceae; Shigella.
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01-WAR-2003 (TrEMBLrel. 23, Last sequence update)
01-WAR-2003 (TrEMBLrel. 23, Last annotation update)
01469.
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100.0%; Pred. No. 8.2e+02;
iive 0; Mismatches 0;
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Best Local Similarity 100...
1, Conservative
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Plasmid pCP301.
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STRAIN=06:H1 / CFI
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STRAIN=301;
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"Cloning, characterization, and inactivation of the Bacillus brevis
lon gene.";
J. Bacteriol. 174:2281-2287(1982).
Famil, Doodes; BAAA0736.1;
PIR, A42375; A42375.
SEQUENCE 52 AA; 5558 WW; 5D689099F84F9AAF CRC64;
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Nature 409:529-533 (2001).

EMBL; AEGOSS69; AEGS6425.1; -.

PIR; E85745; E85745.

Hypothetical protein; Complete protecome.

SEQUENCE 54 AA, 6507 MW; BBSFACD8B56140CE CRC64;
                                                                                                                                                                                                                                                                                                                                       Bacillus brevis (Brevibacillus brevis).
Bacteria; Firmicutes; Bacillales; Paenibacillaceae; Brevibacillus.
NCBL_TaxID=1393;
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Bacteria; Profeobacteria; Gammaproteobacteria; Enterobacteriales;
Enterobacteriaceae; Escherichia.
NCBI_TaxID=83334;
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STRAIN=0157:H7 / EDL933 / ATCC 700927;

MEDLINE=21074935; PubMed=11205551;

Perna N. Plunkett G. III, Burland V., Mau B., Glasner J.D.,

Rose D.J., Mayhew G.F., Evans P.S., Gregor J., Kirkpatrick H.A.,

Posfai G., Hackett J., Klink S., Boutin A., Shao Y., Miller L.,

Grotbeck E.J., Davis N.W., Lim A., Dimalanta E.T., Potamousis K.,

Apodaca J., Anantharaman T.S., Lin J., Yen G., Schwartz D.C.,

Welch R.A., Blattner F.R.;
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                                    Indels
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01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-UUN-2003 (TrEMBLrel. 24, Last annotation update)
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Matches 4; Conservative
                                  4; Conservative
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TISSUB-Liver;
Zhang C., Yu Y., Zhang S., Wei H., Zhang Y., Zhou G., Bi J., Liu M.,
He F.;
"Functional prediction of the coding sequences of 79 new genes deduced by analysis of DDNA clones from human fetal liver.";
Submitted (JAN-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AF119881; AAF69635.1;
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SPEQUENCE FROM N.A.
SPECIES-Helicoverpa zea single nucleocapsid nucleopolyhedrovirus;
Chen X., Zhang W.-T., Wong J., Chun G., Lu A., McCutchen B.F.,
Chen X., Earmann R., Dolan M., Tingey S., Hu Z.-H., Vlak J.M.;
"Genome sequence analysis of Helicoverpa zea single nucleocapsid
                                                           Gaps
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SPECIES-Heliocoverpa armigera mucleopolyhedrovirus G4;
Deng F., Chen X., Vlak J.M., Arif B.M., Hu Z.;
"Sequence analysis of the gp37 gene of Heliothis armigera single-nucleocapsid nucleopolyhedrovirus.";
Zhongguo Bingduxue 15:35-42(2000).
                                                                                                                                                                                                                                                                                                                                                                      01-0cT-2000 (TrEMBLrel. 15, Created)
01-0cT-2000 (TrEMBLrel. 15, Last sequence update)
01-0cT-2000 (TrEMBLrel. 15, Last annotation update)
PRO2435.
Homo sapiens (Human).
Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
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01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-JUN-2003 (TrEMBLrel. 25, Last annotation update)
01-JUN-2003 (TrEMBLrel. 25, Last annotation update)
02749 (Hypothetical protein) (Unkown).
Elicoverpa zea single nucleopolyhedrovirus,
Helicoverpa armigera nucleopolyhedrovirus 64, and
Belicoverpa armigera nucleopolyhedrovirus 64, and
Helicoverpa armigera nucleopolyhedrovirus 64, and
Niruses; 620NA viruses, no RNA stage, Baculoviridae;
Norleopolyhedrovirus.
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     Length 61;
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Submitted (JAN-2001) to the EMBL/GenBank/DDBJ databases
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SEQUENCE FROM N.A.
SPECIES=Heliocoverpa armigera nucleopolyhedrovírus G4;
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tive 0; Mismatches 0;
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Matches 4; Conservative
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Pang M., Hu Z., Chen X., Vlak J.M.;

Pang M., Hu Z., Chen X., Vlak J.M.;

"Genetic organization of the Hindill-L region of Helicoverpa armigera
single-nucleocapsid nucleopolyhedrovirus.";

Submitted (MAY-2000) to the BMBL/GenBank/DDBJ databases.

BMBL, AF34030, AAL56194.1;

BMBL, AF303045; AAX66298.1;

BMBL, AF266694; AAX64316.1;

BMBL, AF266694; AAX64316.1;
                                                                                                                                                                                                                         SPECIES-Heliocoverpa armigera nucleopolyhedrovirus G4;
MEDLINE=21078302; PubMed=11210934;
Wang H., Chen X., Wang H., Arif B.M., Vlak J.M., Hu Z.;
"Nucleotide sequence and transcriptional analysis of a putative basic
DNA-binding protein of Helioverpa armigera polyhedrovirus.";
Virus Genes 22:113-120(2001).
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PubMed=12050807;
Zhang C.X., Wu J.C.;
"Genome structure and the pl0 gene of the Helicoverpa armigera
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SPECIES-Helicoverpa armigera nuclear polyhedrosis virus; STRAIN-Cl;
Wang H., Hu Z., Sun X., Vlak J.M., Chen X.; "Sequence analysis of the lap3 gene of Heliothis armigera single-nucleocapsid nucleopolyhedrovirus."; Zhongguo Bingduxue 15:43-49(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SPECIES=Heliocoverpa armigera nucleopolyhedrovirus G4, MRDiINE=21064569; PubMed=1112517; MRDIINE=21064669; PubMed=1112517; PubMed=1112517; Peters X., IJKel W.F., Tarchini R., Sun X., Sandbrink H., Wang H., Peters S., Zuidema D., Lankhorst R.K., Vlak J.M., Hu Z.; "The sequence of the Helicoverpa armigera single-nucleocapsid nucleopolyhedrovirus genome."; J. Gen. Virol. 82:241-257(2001).
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Chen X., IJKel W.F., Tarchini R., Sun X., Sandbrink H., Wang H.,
Peters S., Zuidema D., Lankhorst R.K., Vlak J.M., Hu Z.;
Submitted (MAY-2000) to the EMBL/GenBank/DDBJ databases.
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Submitted (SEP-2000) to the EMBL/GenBank/DDBJ databases
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SBOUENCE 68 AA; 7962 MW; 61B7718BFBB195FF CRC64;
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01-UNN-2003 (TrEMBLrel. 24, Last sequence update)
01-UNN-2003 (TrEMBLrel. 24, Last annotation update)
H-UNN-2003 (TrEMBLrel. 24, Last annotation update)
NBO289.
NBO289.
Nitrosomonas europaea.
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Best Local Similarity 100.
Matches 4; Conservative
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"Complete genomic sequence of Corynebacterium glutamicum ATCC 13032."; Submitted (MAY-2002) to the EMBL/GenBank/DDBJ databases. EMBL; AP005280; BAB99300.1; -- Hypothetical protein; Complete proteome. SEQUENCE 69 AA; 7815 MW; COEZA072C2295DDZ CRC64;
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STRAIN-Str.1, Str.2, Str.3, Str.4, Str.9, Str.10, and Str.11;
MEDLINE-2213592; PubMed-21240239;
MEDLINE-2213592; PubMed-21240239;
Antunes A., Templeton A.R., Guyomard R., Alexandrino P.;
The role of nuclear genes in intraspecific evolutionary inference:
Mol. Biol. Evol. 19:1272-1287(2002).
EMBL; AR488850; AAN17027-1;
EMBL; AR488858; AAN17027-1;
EMBL; AR488858; AAN17027-1;
EMBL; AR488858; AAN17022-1;
EMBL; AR488858; AAN17032-1;
EMBL; AR488858; AAN17032-1;
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Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Actinopterygii, Neopterygii, Teleostei, Buteleostei,
Protacanthopterygii, Salmoniformes, Salmonidae, Salmo.
                   Corynebacterium glutamicum (Brevibacterium flavum).
Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
Corynebacterineae; Corynebacteriaceae; Corynebacterium.
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100.0%; Pred. No. 1e+03;
ive 0; Mismatches 0; Indels
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Last annotation update)
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STRAIN=ATCC 13032 / DSM 20300 / NCIB 10025;
Nakagawa S.;
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GO; GO:0008199; F:ferric iron binding; IEA.
GO; GO:0008199; P:iron ion homeostasis; IEA.
GO; GO:0006826; P:iron ion transport; IEA.
Interpro; IPR001156; Transferrin.
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EMBL; AF488930; AAN17078.1; -.
EMBL; AF488929; AAN17078.1; JOINED
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PRINTS; PR00422; TRANSFERRIN.
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EMBL; AF488914; AAN17068.1;
EMBL; AF488913; AAN17068.1;
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Best Local Similarity 100.
Matches 4; Conservative
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Matches 4; Conservative
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EMBL, AL731601; CAE050351; -.

EMBL, AL731601; CAE050557.1; -.

EMBL, AL731601; CAE055527.1; -.
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                                                                                                               SEQUENCE FROM N.A.

STRAIN=ATCC 1918 / IFO 14298;

MEDLINE-22864610, PubMed=1270055;

Chain P., Lamerdin J.E., Larimer F.W., Regala W., Lao V., Land M.,

Hauser L., Hooper A.B., Klotz M.G., Norton J., Sayavedra-Soto L.A.,

Arciero D.M., Hommes N.G., Whittaker M.M., Arp D.J.;

"Complete genome sequence of the ammonia-oxidizing bacterium and obligate chemolithoautotroph Nitrosomonas europaea.";

J. Bacteriol. 185:2759-2773 (2003).

BMBL; BR321857, FADB4200.1;

Complete proteome.

SEQUENCE 68 AA; 7800 MW, 8A833B8537524DD6 CRC64;
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01-0CT-2003 (TrEMBLrel. 25, Last sequence update)
01-0CT-2003 (TrEMBLrel. 25, Last sequence update)
01-0CT-2003 (TrEMBLrel. 25, Last annotation update)
05-0CT-2003 (TrEMBLrel. 05, Last annotation update)
05-0CT-2003 (TrEMBLrel. 06)
05-0CT-2003 (
Bacteria; Proteobacteria; Betaproteobacteria; Nitrosomonadales;
Nitrosomonadaceae; Nitrosomonas.
NCBL_TaxID=915;
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01-0CT-2002 (TrEMBLrel. 22, Last sequence update)
01-0CT-2002 (TrEMBLrel. 22, Last annotation update)
Hypothetical protein Cg11907.
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lest Local Similarity 100.
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SEQUENCE FROM N.A.

STRAIN=Ssa-1, and Ssa-2;

MEDLINE=2213592; PubMed=12140239;

MEDLINE=2213592; PubMed=12140239;

A Antunes A. Templeton A.R. Guyomard R., Alexandrino P.;

"The role of nuclear genes in intraspecific evolutionary inference: genes of the transferrin gene in the brown trout.";

MOL. Biol. Bvol. 19.127-1287 (2002).

EMBL; AF488833; AAN17017.1; -.

R EMBL; AF488841; AAN17017.1; -.

R EMBL; AF488841; AAN17022.1; -.

R MEL; AF488841; AAN17022.1; -.

R GO; GO:0006879; Firrarcallular; IEA.

GO; GO:0006879; Firra ion transport; IEA.

R GO; GO:0006879; Pirron ion transport; IEA.

R GO; GO:0006879; Firron ion transport; IEA.

R HITE-PRO1156; Transferrin.

R PRINTS; PRO0422; TRANSFERRIN.

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I SEQUENCE 71 AA; 7504 MW; 9D886A1234CBAC4D CRC64;
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Itoh T., Aiba H., Baba T., Fujita K., Hayashi K., Inada T., Isono K., Kasai H., Kimura S., Kitakawa M., Kitagawa M., Makino K., Miki T., Micobuchi K., Mori H., Mori H., Mori T., Motomura K., Nakade S., Nakamura Y., Mashimoto H., Nishio Y., Oshima T., Saito N., Sampei G., Seki Y., Sivasundaram S., Tagami H., Takeda J., Takemoto K., Wada C.,
                                                                                                                                      01-MAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Transferrin (Fragment).
Salmo salar (Atlantic salmon).
EMARYOTA, Metazas, Chordata, Craniata, Vertebrata; Buteleostomi; Actinopterygii; Neopterygii; Teleostei; Buteleostei; Protacanthopterygii; Salmoniformes; Salmonidae; Salmo.
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01-MAY-1997 (TrEMBLrel. 03, Last sequence update)
01-MAY-2000 (TrEMBLrel. 03, Last sequence update)
01-MAY-2000 (TrEMBLrel. 13, Last annotation update)
Late control gene D protein (Fragment).
D.
Escherichia coll.
Bacteria, Proteobacteria, Gammaproteobacteria, Enterobacteriales,
Enterobacteriaceae; Escherichia.
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                                                                                                                                   71 AA
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Best Local Similarity
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MEDLINE=21359325; PubMed=11466286;
MeDLINE=21359325; PubMed=11466286;
Noelling J., Breton G., Omelchenko M.V., Makarova K.S., Zeng Q., Gibson R., Lee H.M., Dubois J., Qiu D., Hitti J., Wolf Y.I., Tatusov R.L., Sabathe F., Doucette-Stamm L., Soucaille P., Daly M.J., Genent G.N., Koonin E.V., Smith D.R.; and Constraint and comparative analysis of the solvent-producing bacterium (lostridium acetobutylicum.";
J. Bacteriol. 193:4823-488 (2001)
EMBL, AB007632; AAK79151.1;
PIK; D97045; D97045.
PIK; N97045; D97045.
SEQUENCE 74 AA, 8747 MM; 633633CB0AOC293A CRC64;
                                                                                                                                                                                                                                                                                                                  Gaps
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Bacteria; Firmicutes; Clostridia; Clostridiales; Clostridiaceae;
Clostridium.
Yamamoto Y., Horiuchi T.;
"A 460-kb DNA sequence of the Escherichia coli K-12 genome corresponding to the 40.1-50.0 min region on the linkage map.";
DNA Res 3:379-392 (1956).
EMBL; D90847; BAA15949.1;
BNBL; D90846; BAA15938.1;
NOW TER 1
SEQÜENCE 72 AA; 8099 MW; 42A63B25B00EADCB CRC64;
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STRAIN=MA-4680 / ATCC 31267 / NCIMB 12804 / NRRL 8165;
MEDLINE=21477403; PubMed=11572948;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-00T-2001 (TrEMBLrel. 18, Created)
01-0CT-2001 (TrEMBLrel. 18, Last sequence update)
01-UTN-2003 (TrEMBLrel. 24, Last annotation update)
Hypothetical protein CAC1179.
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01-JUN-2003 (TrEMBLrel. 24,
01-JUN-2003 (TrEMBLrel. 24,
Hypothetical protein.
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Best Local Similarity
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SEQUENCE FROM N.A.
MEDLINE-20013326; PubMed=10544099;
Kaiser A., Vollmert M., Tholl D., Graves M.V., Gurnon J.R., Xing W.,
Lisec A.D., Nickerson K.W., Van Etten J.L.;
"Chlorella virus PBCV-1 encodes a functional homospermidine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=20478054; PubMed=11021991;
Sun L., Gurnon J.R., Adams B.J., Graves M.V., Van Etten J.L.;
"Characterization of a beta-1,3-glucanase encoded by chlorella virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A. MEDLINE=96400190; PubMed=8806566; Kutish G.F., Li Y., Lu Z., Furuta M., Rock D.L., Van Etten J.L.; Antish G.F., Li Y., Lu Z., Furuta M., Rock D.L., Van Etten J.L.; Antish G.F., Li Y., Lu Z., Furuta M., Rock D.L., Van Etten J.L.; Positions 182 to 258."; Virology 223:303-317(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Paramecium bursaria chlorella virus 1 (PBCV-1).
Viruses; dsDNA viruses, no RNA stage; Phycodnaviridae; Chlorovirus.
VCBI_TaxID=10506;
                                                                                                                                                                            MEDLINE=22460296; Punded-1256656; Milerable R., Molenaar D., Milerabezem M., Boekhorst J., van Kranenburg R., Molenaar D., Kulerabezem M., Boekhorst J., van Kranenburg R., Molenaar D., Furs M., Steine M., Tain Lankhorst R.M., Bron P.A., Hoffer S.M., Nierop Groot M.N., Kerkhoven R., De Vries M., Ursing Be Vos W., Siezen R.J.; Proc. Natl Acad. Sci. U.S.A. 100:1990-1995(2003).

Proc. Natl Acad. Sci. U.S.A. 100:1990-1995(2003).

BMBL; ALS3257; CAD64344.1; -
Hypochetical protein; Complete protecome.

SEQUENCE 77 AA, 8618 MM, COOEZBFF1D401F2F CRC64;
                                                 Lactobacillus plantarum.
Lactobacillus pirmicutes; Lactobacillales; Lactobacillaceae;
Lactobacillus.
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Submitted (DEC-1995) to the EMBL/GenBank/DDBJ databases
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01-FEB-1997 (TrEMBLrel. 02, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
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100.0%; Pred. No. 1.2e+03;
ive 0; Mismatches 0;
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                                                                                                                                               SEQUENCE FROM N.A.
STRAIN=NCIMB 8826 / WCFS1;
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Best Local Similarity 100.
Matches 4; Conservative
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             Hypothetical protein.
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                                                                                                           NCBI_TaxID=1590;
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Takahashi T., Imai K., Hirasawa A., Shiojima S., Ikawa H., Suzuki Y.,
Tsujimoto G., Izaike Y., Todoroki J., Hashizume K.;
"Characterization of gene expression profiles in early bovine
pregnancy using a custom cDNA microarray.";
Mol. Reprod. Dev. 65:9-18(2003).
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Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Bovinae; Bos.
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Omura S., Ikeda H., Ishikawa J., Hanamoto A., Takahashi C., Shinose M., Takahashi Y., Horikawa H., Nakazawa H., Osonoe T., Kikuchi H., Shiba T., Sakaki Y., Hattori M., "Genome sequence of an industrial microorganism Streptomyces avermitilis: deducing the ability of producing secondary
                                                                                                                                                                                                                                                                                                                                                                         95.0%; Score 19; DB 16; Length 74; 100.0%; Pred. No. 1.1e+03; Live 0; Mismatches 0; Indels
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100.0%; Pred. No. 1.2e+03;
tive 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Last sequence update)
Last annotation update)
                                                                                           metabolites.";
Proc. Natl. Acad. Sci. U.S.A. 98:12215-12220(2001)
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InterPro, IPR003511, DNAbind HORMA.
PROSITE; PS50815; HORMA; 1.
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SEQUENCE 77 AA; 8832 MW; E2RIN6757
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01-JUN-2003 (TrEMBLrel. 24, Last seq
01-CTT-2003 (TrEMBLrel. 25, Last ann
Similar to MADZ protein (Fragment).
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MEDLINE=22544902; PubMed=12658628;
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Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales;
Bradyrhizobiaceae; Bradyrhizobium.
NCBI_TaxID=375;
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STRAIN=C-125 / JCM 9153;
MEDLINE=20512582; PubMed=11058132;
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01-JUN-2003 (TrEMBLrel. 24, C.
01-JUN-2003 (TrEMBLrel. 24, L.
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Hypothetical protein.
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Chlamydophila caviae.
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SEQUENCE FROM N.A.
STRAIN=USDA 110;
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Winans S.C., Zhu J., Oger P.M., Schrammeijer B., Hooykaas P.J.,
Farrand S.K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Rhizobiaceae; Rhizobium/Agrobacterium group; Agrobacterium.
NCBI_TaxID=358;
                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity 100.0%; Score 19; DB 12; Length 79; Similarity 100.0%; Pred. No. 1.2e+03; 4; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                         Gurnon J.R., Graves M.V., Van Etten J.L.;
Submitted (DEC-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; 142580; AA268999.1; -.
PIR; T18034; T18034.
SEQUENCE 79 AA; 8698 MW; B191C627F5D5C5A7 CRC64;
                                            Van Etten J.L.;
Submitted (SEP-1997) to the EMBL/GenBank/DDBJ databases.
                                                                                                   SEQUENCE FROM N.A.
Graves M.V., Van Etten J.L.;
Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Octopine-type Ti plasmid sequence.";
Submitted (MAR. 2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AF24.881
GO; GO:0046821; C:extrachromosomal DNA; IEA.
                                                                                                                                                                                        SEQUENCE FROM N.A.
Graves M.V., Van Etten J.L.;
Submitted (MAY-1999) to the EMBL/GenBank/DDBJ databases
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01-0CT-2000 (TrEMBLrel. 15, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
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01-JUN-2003 (TrEMBLrel. 24, L
01-JUN-2003 (TrEMBLrel. 24, L
BSRO662 protein.
BSRO662.
Bradyrhizoblum japonicum.
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Plasmid Ti.
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Best Local Similarity
Matches 4; Conserv
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Best Local Similarity
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SEQUENCE FROM N.A.
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Q89WL6
ID Q89WL/
AC Q99WL/
DT 01-JU
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DT 01-JU
DT 8EROG
GN BSR06
OS Brady
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Horikoshi K.;

"Complete genome sequence of the alkaliphilic bacterium Bacillus normalization of the alkaliphilic bacterium Bacillus subtilis.";

Nucleic Acids Res. 28:4317-4331(2000).

RMBL, APOOIST4; BASD5901.1;

PIR, F83922; F83922.

Hypothetical protein; Complete proteome.

SEQUENCE 84 AA; 9669 MW; 6CDE3768ED9F5D84 CRC64;
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STRAIN=USDA 110;
MEDLINE=22484898; PubMed=12597275;
Kaneko I., Nakamura Y., Sato S., Minamisawa K., Uchiumi T.,
Sasamoto S., Watanabe A., Idesawa K., Iriquchi M., Kawashima K.,
Kohara M., Matsumoto M., Shimpo S., Tsuruoka H., Wada I., Yamada M.,
Tabata S.;
                                                                                                                                                                                           "Complete genomic sequence of nitrogen-fixing symbiotic bacterium Bradyrhizobium japonicum USDA110.";
DNA Res. 9:189-197(2002).
EMBL; ADOS5937; BAC45927.1; -.
Complete proteome.
SEQUENCE 81 AA; 9235 MW; D512A9FFEDODA6C7 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Takami H., Nakasone K., Takaki Y., Maeno G., Sasaki R., Masui N.,
Fuji F., Hirama C., Nakamura Y., Ogasawara N., Kuhara S.,
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NCBI_TaxID=86665;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-OCT-2003 (TrEMBLrel. 24, Last annotation update)
BH2182.
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Last annotation update)
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MEDILINE-1777867; PubMed-1848850;
Tu G.F., Achen M.G., Aldred A.R., Southwell B.R., Schreiber G.;
Tu G.F., Achen M.G., Aldred A.R., Southwell B.R., Schreiber G.;
The distribution of cerebral expression of the transferrin gene is species specific.";
J. Biol. Chem. 266:6201-6208(1991).
- FUNCTION: TRANSFRRING ARE IRON BINDING TRANSPORT PROTEINS WHICH CAN BIND TWO ATOMS OF PERRIC IRON IN ASSOCIATION WITH THE BINDING OF AN ANION, USUALLY BICARBONATE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ovis aries (Sheep).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
Bovidae; Caprinae; Ovis.
                                                                                                                                                                                                  Stephenson S.-A., Maclean D.J., Manners J.M.;
Stephenson S.-A., Maclean D.J., Manners J.M.;
Disruption of a novel pathogenicity gene of Colletotrichum
gloeosporioides results in a hypersensitive response in the host
Stylosanthes guianensis.";
Submitted (MAR-1997) to the EMBL/GenBank/DDBJ databases.
EMBL, U94183; ARB92222.1;
GO, GO:000367; F:DMA binding; IEA.
InterPro; IPR001387; HTH 3:
Ffam; PF01381; HTH 3:
SMART; SM00530; HTH 3: 1.
                       Sordariomycetes incertae sedis; Phyllachorales; Phyllachoraceae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 85;
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ENEL; M64692; AAA31586.1; -
ENESP; P19134; A38725.

HSSP; P19134; A38725.

GO; GO:0008576; C:extracellular; IEA.

GO; GO:000879; F:ferric iron binding; IEA.

GO; GO:0008679; F:ferric iron binding; IEA.

GO; GO:0008679; F:ferric iron binding; IEA.

GO; GO:0008679; F:ferric iron binding; IEA.

HoterPro; IPR01156; Transferrin.

SYMAT; SM000365; TRANSFERRIN 1; 1.

Iron transport; Metal-binding.

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01-NOV-1996 (TrEMBLrel. 01, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Transferrin (Fragments).
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100.0%; Pred. No. 1.3e+03;
tive 0; Mismatches 0;
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les 4; Conservative
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                                                                                                                                                   SEQUENCE FROM N.A.
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                                                            Glomerella.
NCBI_TaxID=5457;
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SEQUENCE
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Bacteria, Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila.
NCBI_TaxID=83557;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chlamydia pneumoniae (Chlamydophila pneumoniae).
Bacteria; Chlamydiae; Chlamydiales; Chlamydiaceae; Chlamydophila.
NCBI_TaxID=83558;
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01-JUN-1998 (TrEMBLrel. 06, Created)
01-JUN-1998 (TrEMBLrel. 06, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Hypothetical protein (Fragment).
Colletotrichum gloeosporioides (Anthracnose fungus) (Glomerella
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .
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Eukaryota, Fungi, Ascomycota, Pezizomycotina, Sordariomycetes,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hypothetical protein; Complete proteome.
SEQUENCE 84 AA; 9191 MW; 7DF6009729C7093A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Last sequence update)
Last annotation update)
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Pred. No. 1.3e+03;
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Best Local Similarity 100.0%; Pred. No. 1.3
Matches 4; Conservative 0; Mismatches
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27VPV6
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STRAINE-SPOURCE FROM N.A.

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REDLINE-SPOURD(18)

A Lindler L.B., Plano G.V., Burland V., Mayhew G.F., Blattner F.R.;

Lindler L.B., Plano G.V., Burland V., Mayhew G.F., Blattner F.R.;

Lindler L.B., Plano G.V., Burland V., Mayhew G.F., Blattner F.R.;

RTMS plasmid encoding murine toxin and capsular antigen.";

Infect. Immun. 66:5731-5742(1998).

REMBL, AF074611; AACB2761.1; -.

ROJ, GO:0046821; C:extrachromosomal DNA; IEA.

InterPro; IPR003006; Ig MRC.

ROS: FREE: PS002096; IG MRG; 1.

REMSITE: PS002096; IG MRG; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE, FROM N.A.
MEDLINE=93013005; PubMed=1398114;
Shih M.C., Heinrich P., Goodman H.M.;
"Cloning and chromosomal mapping of nuclear genes encoding chloroplast and cytosolic glyceraldehyde-3-phosphate-dehydrogenase from Arabidopsis thaliana.";
                                                                                                                                                                                                                                                                                                                                                                                    Chloroplast.
Bukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
Spermatophyta, Magnoliophyta, eudicotyledons, core eudicots, rosids,
eurosids II, Brassicales, Brassicaceae, Arabidopsis.
NCBI_TaxID=3702;
                                                                                                                                                                                          01-NCV-1996 (TrEMBLrel. 01, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
Glyceraldehyde-3-phosphate-dehydrogenase subunit GapB (Fragment):
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Plasmid pMT-1.
Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;
Enterobacteriaceae; Yersinia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           95.0%; Score 19; DB 10; Length 88; 100.0%; Pred. No. 1.3e+03; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        95.0%; Score 19; DB 2; Length 89; 100.0%; Pred. No. 1.3e+03; iive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE 88 AA; 9198 MW; FCDB6A7E37B6999D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-May-1999 (TrEMBLrel. 10, Created)
01-May-1999 (TrEMBLrel. 10, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
                                                                          88 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     89 AA
                                                                                                                                                                                                                                                                                                                                                   Arabidopsis thaliana (Mouse-ear cress)
                                                                                                                                            01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last seq
01-JUN-2003 (TrEMBLrel. 24, Last ann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gene 119:317-319(1992).
EMBL, S45911; AAB23533.1; -.
GO; GO:0009507; C:chloroplast; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 100.
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                                                                          PRELIMINARY;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 VAEF 5
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                                                                  Q41185;
Q41185;
01-NOV-1996 (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chloroplast.
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Matches
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Q9ZGY2
RESULT 37
                                         041185
                                                                          HERE REPORTED THE SOURCE OF TH
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Herrwig S., Klein I., Schmidt V., Beck S., Hammerl J.A., Appel B., Sequence analysis of the genome of the temperate Yersinia enterocolitica phage PY54.", enterocolitica phage PX54.", Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                               0.10f7-2003 (TrEMBLrel. 25, Created)
01-0CT-2003 (TrEMBLrel. 25, Last sequence update)
01-0CT-2003 (TrEMBLrel. 25, Last annotation update)
Hypothetical protein.
Bacteriophage PY54.
Viruses; dsDNA viruses, no RNA stage; Caudovirales; Siphoviridae.
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Bacteria; Proteobacteria; Betaproteobacteria; Nitrosomonadales;
Nitrosomonadaceae; Nitrosomonas.
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"Construction of tryptophan requiring-mutant of Nitrosomonas en by inactivation of trpC gene using homologous recombination."; Submitted (JUL-1999) to the EMBL/GenBank/DDBJ databases. EMBL; AB030031; BAA83388.1; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hertwig S.;
Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.
EMBL, AJ564013; CAD91786.1; ---
EXONLCIeases, Hypothetical protein.
SEQUENCE 87 AA, 8538 MW; D17D7A7E3075459B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 88 AA; 9765 MW; A59003348F4E280C CRC64;
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01-WAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cytochrome P460 (Fragment)
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                                                                                                       13 VAEF 16
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 VAEF 5
                                 VAEF 5
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Q98590;
                                                                                                                                                                                                                                                                                                     Q7Y3Y9
                                                                                                                                                                                                                       RESULT 35
Q7Y3Y9
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Matches
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Q9S590
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                                                                                                                                                                             RESULT 41
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
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Bacteria; Firmicutes; Lactobacillales; Streptococcaceae; Lactococcus.
NCBI_TaxID=1360;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                               Bacteria; Proteobacteria; Gammaproteobacteria; Pasteurellales;
Pasteurellaceae; Pasteurella.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            95.0%; Score 19; DB 16; Length 89; 100.0%; Pred. No. 1.3e+03; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GO; GO:0005622; C:intracellular; IEA.
GO; GO:0005840; C:ribosome; IEA.
GO; GO:0003785; F:structural constituent of ribosome; IEA.
GO; GO:0006412; P:protein biosynthesis; IEA.
InterPro; IPR00589; Ribosomal_815.
InterPro; IPR005290; Ribosomal_815_b.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             89 AA; 10184 MW; F796E0AB5283ED0E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
Hypothetical protein ypjB.
                                                                                                                                                    Last sequence update)
Last annotation update)
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                                                                                                                        Created)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN=Pm70;
MEDLINE=21145866; PubMed=11248100;
                                                                                                                 01-JUN-2001 (TrEMBLrel. 17, 01-JUN-2001 (TrEMBLrel. 17, 01-OCT-2003 (TrEMBLrel. 25,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 100.
Matches 4; Conservative
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                                                            PRELIMINARY;
                                                                                                                                                                                                             RpS15.
RPS15 OR PM0301.
Pasteurella multocida.
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Q9CFD1;
                                                                                              OSCNX1;
                                                            Q9CNX1
RESULT 39
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01-UUN-2001 (TrEMBLrel. 17, Last sequence update)
01-UUN-2003 (TrEMBLrel. 24, Last annotation update)
01-UUN-2003 (TrEMBLrel. 24, Last annotation update)
Preproinsulin (Fragment)
Ambloplites rupestris (Rock bass)
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Actinopterygii, Neopterygii, Teleostei, Buteleostei,
Acanthomorpha; Acanthopterygii, Percomorpha, Perciformes, Percoidei,
Centrarchidae, Ambloplites.
NCBL_TAXID=109273;
                                                         Gaps
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Al-Mahroukia, A., Irwin D.M., Youson J.H.;
Molecular cloning of preproinsulin cDNA from the rock bass.";
Lisunited (oct-1999) to the EMBL/GenBank/DBDJ databases.
-: SIMILARITY: BELONGS TO THE INSULIN/IGF/RELAXIN FAMILY.
R EMBL, ARY195844 AAK28708.1; -.
R HSSP, PO1308, ILPH.
GO; GO:0005179; Fibormone activity; IEA.
RG; GO:0005179; Fibormone activity; IEA.
RO; GO:0005182; P:physiclogical processes; IEA.
R PRIMYS; PRO0499; Insulin; 1.
R PRIMYS; PRO0491; Insulin; 1.
R PRIMYS; PRO0491; Insulin; 1.
R PRIMYS; PRO0491; Insulin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens (Human).
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
NCBI_TaxID=9606;
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Length 89;
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                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.

Yin F., Fan D.M.;

"Identifying a new variant of MAD2L1.";

Submitted (UNN-2001) to the EMBL/GenBank/DDBJ databases.

EMBL; AF394735; AAN74648.1; -.

EMBL; AF394735; AAN74648.1; -.

EMBL; AF304015311; DNAbind_HORMA.

Pfam; PF02301; HORMA; 1.

PROSITE; PS08015; HORMA; 1.

SEQUENCE 90 AA; 10335 MW; 8209F5A7A7DBD09B CRC64;
                                                                                                                                                                                                                                                                                                                                              QRIZX3;
01-MAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
MAD2 mitotic arrest deficient-like I variant.
MAD211.
Ouery Match
95.0%; Score 19; DB 16; L
Best Local Similarity 100.0%; Pred. No. 1.3e+03;
Matches 4; Conservative 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                     90 AA.
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Best Local Similarity 100.
Matches 4; Conservative
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PRELIMINARY;
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Best Local Similarity
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089WX7
ID 089WX
AC 089WX
DT 01-JU
DT 01-OC
DE B8105
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Q8U8Q1
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Carter R.P., Umenish: P., Matthay M.A., Verkman A.S.;
Carter R.P., Umenish: P., Matthay M.A., Verkman A.S.;
Carter R.P., Umenish: Permeability across the blood-gas barrier in rabbit lungs in the first 24 hours after birth.";
Submitted (ARR-1997) to the BMBJ/Gahank/DBJ databases.
-!- SUBCELULIAR LOCATION: INTEGRAL MEMBRANE PROTEIN (BY SIMILARITY).
-!- SIMILARITY: BELONGS TO THE MIP/AQUAPORIN FAMILY (TC 1.A.8).
EMBL, ARGOGIL; ABB94408.1;
-- GO, GO: 0016021; C:integral to membrane; IEA.
                                                                                                                                                               Gaps
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Cevallos M.A., Izquierdo J., Porta H., Tun C., Davila G., Brom S.;

"Rhizobium etli CE3 contains at least three plasmids of the RepABC

family: A structural and an evolutionary analysis.";

Submitted (OCT-2000) to the EMBL/GenBank/DDBJ databases.

EMBL; AF313446; AAM88940.1; -.

GO; GO:0046821; C:extrachromosomal DNA; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               046425 PRELIMINARY; PRT; 94 AA.
046425;
01-JUN-1998 (TrEMBLrel. 06, Last sequence update)
01-JUN-1998 (TrEMBLrel. 06, Last sequence update)
01-JUN-1998 (TrEMBLrel. 25, Last annotation update)
Aquaporin 1 (Fragment).
Aquaporin 1 (Fragment).
Oryctolagus cuniculus (Rabbit).
Oryctolagus cuniculus (Rabbit).
Oryctolagus cuniculus (Rabbit).
Mammalia; Butheria; Lagomorpha; Leporidae; Oryctolagus.
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                                                                                                             Similarity 100.0%; Pred. No. 1.4e+03; 4; Conservative 0; Mismatches 0; Indels
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                                                91 91
91 AA; 10100 MW; E86C8B256DC69D39 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                               01-007-2002 (TrEMBLrel. 22, Created)
01-007-2002 (TrEMBLrel. 22, Last sequence update)
01-UTM-2003 (TrEMBLrel. 24, Last annotation update)
Putative transcriptional regulator (Fragment).
Rhizobium etli.
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PROSITE; PS00262; INSULIN; 1.

NON TER 1 1

NON TER 91 91

SEQÜENCE 91 AA; 10100 MW;
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Matches 4; Conservative
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Best Local Similarity
Matches 4; Conserv
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046425
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Q8KY12
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SEQUENCE FROM N.A.

Whood D.W., Setubal J.C., Kaul R., Monks D.E., Kitajima J.P.,

Whood D.W., Setubal J.C., Kaul R., Monks D.E., Kitajima J.P.,

OKLIATA V.K., Zhou Y., Chen L., Wood G.E., Almeida N.F. Jr., Woo L.,

Chen Y., Paulsen I.T., Esen J.A., Karp P.D., Bovee D. Sr.,

Chapman P., Clendenning J., Deatherage G., Gillet W., Grant C.,

Kutyavin T., Levy R., Li M.-J., McClelland E., Palmieri A.,

Raymond C., Rouse G., Sanphimmechak C., Wu Z., Romero P., Gordon D.,

Zhang S., Yoo H., Tao Y., Biddle P., Jung M., Kreepan W., Perry M.,

Gordon-Kamm B., Liao L., Kim S., Hendrick C., Zhao Z.-Y., Dolan M.,

Chumley F., Tingey S.V., Tomb J.-F., Gordon M.P., Olson M.V.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Agrobacterium tumefaciens (strain CS8 / ATCC 33970).
Bacteria, Proteobacteria, Alphaproteobacteria, Rhizobiales;
Rhizobiaceae, Rhizobium/Agrobacterium group; Agrobacterium.
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                                                                                                                                                                                                                                                                                                                                                                                                                                          95.0%; Score 19; DB 6; Length 94; 100.0%; Pred. No. 1.4e+03; tive 0; Mismatches 0; Indels
R GO; GO:0005741; C:mitochondrial outer membrane; IEA.

R GO; GO:0015288; P:porin activity; IEA.

R GO; GO:0005315; P:transporter activity; IEA.

R GO; GO:0006310; P:transport; IEA.

R InterPro; IPR000425; MIP.

R ProDom; PD000205; MIP. 1.

R PROSITE; PS00221; MIP. 1.

R PROSITE; PS00221; MIP. 1.

R POTIN; Transmembrane; Transport.

NON TER 1 1 1

NON TER 94 94

SEQÜENCE 94 AA; 10057 MW; 963D5527631E8CDC CRC64;
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PIR, AB3053, AB3053.
Hypothetical protein, Complete proteome.
BEQUENCE 96 AA, 11193 MW, FBD6358994B46ABAE CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-JUN-2002 (TrEMBLrel. 21, Created)
01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
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Last annotation update)
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Matches 4; Conservative 0
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STRAIN=EGD-6 / Serovar 1/2a;

STRAIN=EGD-6 / Serovar 1/2a;

MEDLINE=2153729; PubMed=11679669;

MEDLINE=2153729; PubMed=11679669;

MEDLINE=2153729; PubMed=11679669;

MEDLINE=2153729; PubMed=11679669;

MEDLINE=2153729; PubMed=11679669;

A Charbit A., Chetcuani F., Couve E., de Daruvar A., Dehoux P.,

Mentanit A., Chetcuani F., Couve E., de Daruvar A., Dehoux P.,

Mentan K.-D., Feihi H., Garaladel Portillo F., Garrido P.,

Medular L., Geobel W., Gomez-Lopez N., Hain T., Hauf D., Jückson D.,

Jones L.-M., Kaerst U., Kreft J., Kuhn M., Kunst F., Nedjari H.,

Madueno E., Maitournam A., Mata Vicente J., Ng E., Nedjari H.,

Madueno E., Maitournam A., Wata Vicente J., Ng E., Nedjari H.,

Remmell B., Rose M., Schlueter T., Simces N., Tierrez A.,

Vazquez-Boland J.-A., Voss H., Wehland J., Cossart P.,

T. Science 224:849-852(2001).

REMBL, ALS1983; CAD00657.1; -
             Viruses; ssRNA positive-strand viruses, no DNA stage; Picornaviridae;
                                                                                                                   STRAIN=LSH/S;
MEDLINE=92348883; PubMed=1668326;
Pineschi N., Cavalieri F., Garelick H., Prugnola A., Pellegrini V.,
Zuckerman A.J.;
"Characterization of a hepatitis A virus strain suitable for vaccine
                                                                                                                                                                                                                                                                                                                                                                   95.0%; Score 19; DB 12; Length 97; 100.0%; Pred. No. 1.5e+03; tive 0; Mismatches 0; Indels
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Bacteria, Firmicutes, Bacillales, Listeriaceae, Listeria.
                                                                                                                                                                                                                                                                                                                                SEQUENCE 97 AA; 10614 MW; D207F7CB93110DDF CRC64;
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InterPro: IPR07138; ABM.
Prom; PR03992; ABM; I.
Hypothetical protein; Complete protecome.
SEQUENCE 97 AA; 10979 WW; 9E758586E94218E0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-MAR-2002 (TrEMBLrel. 20, Last sequence update) 01-UNH-2003 (TrEMBLrel. 24, Last annotation update) IMPOCHPEtical protein lmo2579.
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                                                                                                                                                                                                                            production.";
J. Hepatol. 13:S146-S151(1991).
EMBL; S44109; AAB22740.2; -.
NON TER 1
NON_TER 97 97
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Best Local Similarity 100...
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                                                                                               SEQUENCE FROM N.A.
Hepatitis A virus.
                                   Hepatovirus.
NCBI_TaxID=12092;
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Pyrococcus.
NCBI_TaxID=2261;
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                                                                                                                                       STRAIN-USDA 110;
MEDLINE=22484998; PubMed=12597275;
Kaneko T., Nakamura Y., Sato S., Minamisawa K., Uchiumi T.,
Sasamoto S., Watanabe A., Idesawa K., Iriguchi M., Kawashima K.,
Kohara M., Matsumoto M., Shimpo S., Tsuruoka H., Wada T., Yamada M.,
Tabata S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                               "Complete genomic sequence of nitrogen-fixing symbiotic bacterium Bradyrhizobium japonicum USDA110.";
DNA Res. 9:189-197(2002).
BMBL; ABO05936; BAC45816.1; ...
GO; GO:0016020; C:membrane; IEA.
InterPro; IPR003425; UK_YGGT.
PFam; PF02325; YGGT; 1.
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STRAIN=VC1 / DSW.3638 / ATCC 43587 / JCM 8422;
Weiss R.B., Dunn D.M., Robb F.T., Brown J.R.;
Where complete sequence of the Pyrococcus furiosus genome.";
Submitted (FEB-2002) to the EMBL/GenBank/DDBJ databases.
BMSL; ABOIO262; AALS1744.1;
Hypothetical protein; Complete protecme.
SEQUENCE 96 AA; 10804 MW; D6DAE09D096D577A CRC64;
               Bradyrhizobium japonicum.
Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales;
Bradyrhizobiaceae; Bradyrhizobium.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match

95.0%; Score 19; DB 17; Length 96;

Best Local Similarity 100.0%; Pred. No. 1.4e+03;

Matches 4; Conservative 0; Mismatches 0; Indels
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95.0%; Score 19; DB 16; Length 96

Best Local Similarity 100.0%; Pred. No. 1.46+03;

Matches 4; Conservative 0; Mismatches 0; Indels
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01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Hyporhetical protein FF1620.
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                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                      Complete proteome.
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                                                                         NCBI_TaxID=375;
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Buell R., Joardar V., Khouri H., Fedorova N., Tran B., Russell D.,
Buell R., Joardar V., Khouri H., Fedorova N., Tran B., Russell D.,
Dodson R., Utterback T., Van Aken S., Feldblyum T., Gwinn M.,
Dodson R., DeBoy R., Durkin A., Kolonay J., Madupu R., Daugherty S.,
Brinkac L., Beanan M., Haft D., Selengut J., Nelson W., Davidsen T.,
White O., Fraser C., Collmer A.,
"Complete sequence of Pseudomonas syringae.";
Submitted (MAR-2003) to the EMBL/GenBank/DDBJ databases.
IEMBL, ARO16862; AAO55328.1;
IGR; PSPTO1808;
                                                                                                                                                                                                                                 [1]
SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDLINE=20437337; PubMed=10984043;
Stover C.K., Pham X.-O.T., Erwin A.L., Mizoguchi S.D., Warrener P., Hickey M.J., Balrikman F.S.L., Hufnagle W.O., Kowalik D.J., Lagrou M. Hickey M.J., Balrikman F.S.L., Hufnagle W.O., Kowalik D.J., Lagrou M. Garber R.L., Goltry L., Tolentino E., Westbook Wadman S., Yuan Y., Brody L.L., Coulter S.N., Folger K.R., Kas A., Larbig K., Lim R.M., Smith K.A., Spencer D.H., Wong G.K.-S., Wu Z., Paulsen I.T., Reizer J., Saler M.H., Hancock R.E.W., Lory S., Olson M.V.; "Complete genome sequence of Pseudomonas aeruginosa PAO1, an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pseudomonas syringae (pv. tomato).
Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales;
Pseudomonadaceae; Pseudomonas.
                                                                                                                                                          Pseudomonas aeruginosa.
Bacteria: Proteobacteria; Gammaproteobacteria; Peeudomonadales;
Pseudomonadacee; Pseudomonas.
NCBI_TaxID=287;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR005545; YCII.
Pfam; PF03795; YCII; 1.
Hypothetical protein; Complete proteome.
SEQUENCE 99 AA; 10609 MW; 3AD945F44D54A85C CRC64;
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99 AA; 10504 MW; 62836007E4849392 CRC64;
                                  01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-UN-2003 (TrEMBLrel. 24, Last annotation update)
PA3202.
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01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                   opportunistic pathogen.";
Nature 406:959.964 (2000).
EMBL; AE004744; AAG05590.1; -.
PIR; E83244; E83244.
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Pfam, PP03795, YCII; 1.
Hypothetical protein; Compl
SEQUENCE 99 AA; 10504 MW
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Matches 4; Conserv
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Q885M3
RESULT 50
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SEQUENCE FROM N.A.

STRAIN=ATCC 19718 / IFO 14298;

STRAIN=ATCC 19718 / IFO 14298;

MEDLINE=22586410; PubMed=12700255;

A MEDLINE=22586410; PubMed=12700255;

A Hauser L., Hooper A.B., Klorz M.G., Norton J., Sayavedra-Soto L.A., A Arcitor D.M., Hommes N.G., Whittaker M.M., Arp D.J.;

A Arcitor D.M., Hommes N.G., Whittaker M.M., Arp D.J.;

Complete genome sequence of the ammonia-oxidizing bacterium and obligate chemolithoautotroph Nitrosomonas europaea.";

J. Bacteriol. 185:2759-2773 (2003).

R PRE, EX21861; CAD85330.1;

InterPro; IPR005545; YCII.

R Pfan; PR03795; YCII.

W Mpothetical protein; Complete proteome.

SEQUENCE 100 AA; 10836 MW; 82DC1153BABFAE27 CRC64;
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-STRAIN=ATCC 55739;
Nam S.J., Khm J.K., Park J.Y., Ha Y.L., Kim J.H.;
Nam S.J., Khm J.K., Park J.Y., Ha Y.L., Kim J.H.;
Nam S.J., Khm J.K., Park J.Y., Ha Y.L., Kim J.H.;
Submitted (JUL-2011) to the EMBL/GenBank/DDBJ databases.
EMBL; AF401482; AAL60142.1; -.
GO; GO:0003414; P:translation elongation factor activity; IEA.
GO; GO:0006414; P:translational elongation; IEA.
InterPro; IPR001816; EF_TS.
Pfam; PR00889; EF_TS; 1.
SEQÜENCE 101 AA; 11650 MW; BBCF30D941DB2B9B CRC64;
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Bacteria; Proteobacteria; Betaproteobacteria; Nitrosomonadales;
Nitrosomonadaceae; Nitrosomonas.
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Lactobacillus reuteri.
Bacteria; Firmicutes; Lactobacillales; Lactobacillaceae;
Lactobacillus.
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01-WAR-2002 (TrEMBLrel. 20, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
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Local Similarity 100.0%; Pred. No. 1.5e+03;
les 4; Conservative 0; Mismatches 0;
Pred. No. 1.5e+03;
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01-UUN-2003 (TrEMBLrel. 24, Created)
01-UUN-2003 (TrEMBLrel. 24, Last seq
01-OCT-2003 (TrEMBLrel. 25, Last ann
Hypothetical protein.
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Best Local Similarity
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Q8VS54;
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Q82UR2
ID Q82UR2
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103 AA;
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Q9F368
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SHO O., Singh R.K., Confalonieri F., Zivanovic Y., Allard G.,

Awayez M.J., Chan-Weiher C.C.-Y., Clausen I.G., Curtis B.A.,

De Moors A., Erause G., Fletcher C., Gordon P.M.K.,

De Moors A., Erause G., Fletcher C., Medina N., Peng X.,

D. Heikamp-de Jong I., Joffries A.C., Kozera C.J., Medina N., Peng X.,

D. Thi-Ngoc H.P., Redder P., Schenk M.E., Theriault C., Tolstrup N.,

Charlebois R.L., Doolittle W.F., Duguet M., Gaasterland T.,

Garrett R.A., Ragan M.A., Sensen C.W., van der Oost J.;

Garrett A., Ragan M.A., Sensen C.W., van der Oost J.;

The complete genome of the crearchaeon sulfolobus solfataricus P2.";

Froc. Natl. Acad. Sci. U.S.A. 98.7835-7840(2001).

REMBL, AE006755; AAK41639.1;

REMBL, AE006755; AAK41639.1;

REMBL, AE006755; ABM41639.1;

REMBL, AE006755; ABM4163
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MEDLINE-22608414; PubMed=12721629; Baillie L.W., Paulsen I.T.,
Read T.D., Peterson S.N., Tourasse N., Baillie L.W., Paulsen I.T.,
Nelson K.E., Tettelin H., Fouts D.E., Eisen J.A., Gill S.R.,
Holtzapple E.K., Okstad O.A., Helgason E., Rilstone J., Wu M.,
Rolonay J.F., Beanan M.J., Dodson R.J., Brinkac L.M., Gwinn M.,
DeBoy R.T., Madpu R., Daugherty S.C., Durkin A.S., Haft D.H.,
Nelson W.C., Peterson J.D., Pop M., Khouri H.M., Radune D.,
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Sulfolobus solfataricus.
Archaea; Crenarchaeota; Thermoprotei; Sulfolobales; Sulfolobaceae;
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                 95.0%; Score 19; DB 2; Length 101; 100.0%; Pred. No. 1.5e+03; ive 0; Mismatches 0; Indels
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Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus.
NCBI_TaxID=198094;
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01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
Hypothetical protein.
                                                                                                                                                                                                                                                                         01-OCT-2001 (TrEMBLrel. 18, Last sequence update) 01-JUN-2003 (TrEMBLrel. 24, Last annotation update) Hypothetical protein SSO1404.
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95.0%; Score 19; DB 17; L
Best Local Similarity 100.0%; Pred. No. 1.5e+03;
Matches 4; Conservative 0; Mismatches 0;
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Query Match
Best Local Similarity 100.v.
As Conservative
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Benton J.L., Mahamoud Y., Jiang L., Hance I.R., Weidman J.F.,
Berry K.J., Plaut R.D., Wolf A.M., Matkins K.L., Nierman W.C.,
Hazen A., Cline R., Redmond C., Thwaite J.E., White O., Salzberg S.L.,
Thomason B., Friedlander A.M., Koehler T.M., Hanna P.C., Kolsto A.-B.,
Fraser C.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-00T-2003 (TrEMBLrel. 25, Created)
01-00T-2003 (TrEMBLrel. 25, Last sequence update)
01-00T-2003 (TrEMBLrel. 25, Last annotation update)
BK150C2.6 (Putative novel protein similar to APOBEC1 (Apolipoprotein BK150C2.6)
BK150C2.6.
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                                                                                                                                        Homo sapiens (Human).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_TaxID=9606;
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STRAIN=8A10.) / M145.
MEDLINE-2196410; PubMed=12000953;
Bentley S.D., Chater K.F., Cerdeno-Tarraga A.-M., Challis G.L.,
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01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Mypothetical protein SCO4420.
SCO4010 OR SC6F11.18
Streptomyces coalicolor.
Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
Streptomycineae; Streptomycetaceae; Streptomyces.
                                                                                                                                                                                                                                                                                                                                                 95.0%; Score 19; DB 16; Length 102; 100.0%; Pred. No. 1.5e+03; 10de1s
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Submitted (JUN-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; AL022318; CAB45276.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             103
12146 MW; 5DC969AE3ED348D9 CRC64;
                                                                                                                                                                                                                                                                          Hypothetical protein; Complete proteome.
SEQUENCE 102 AA; 11925 MW; 13B8E296C8A341B1 CRC64;
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EMBL; AE017031; AAP26109.1; -.
TIGR; BA2232; -.
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Gaps

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Gp3.
Mycobacteriophage Corndog.
Viruses; dsDNA viruses, no RNA stage; Caudovirales; Siphoviridae.
NCBI_TaxID=205875;
SEQUENCE FROM N.A.

MEDLINE=22592660; PubMed=12705866;
Pedulla M.L., Ford M.E. Houtz J.M., Karthikeyan T., Wadsworth C. Lewis J.A., Jacobs-Sera D., Falbo J., Gross J., Pannuzato N.R., Brucker W., Kumar V., Kandasamy J., Keenan L., Bardarov S., Kriakov J., Lawrence J.G., Jacobs W.R. Jr., Hendrix R.W.; Hatfull G.F., "Origins of highly mosaic mycobacteriophage genomes."; "Origins of highly mosaic mycobacteriophage genomes."; EMBL, AX129339; AANO1211.1; -. SEQUENCE 104 AA; 11074 MW; BB806EAC401E9FDO CRC64;
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Katinka M.D., Duprat S., Cornillot E., Metenier G., Thomarat F., Peresian G., Eather W.D., Duprat S., Cornillot E., Brottier P., Wincker P., Delbac F., El Alaoul H., Peyretaillade E., Brottier P., Wincker P., Weissenbach J., Vivares C.P.;
Weissenbach J., Vivares C.P.;
Weissenbach J., Vivares C.P.;
Weissenbach J., Vivares C.P.;
Weissenbach J., Mincker D., Saurin W., Gouy M.,
Weissenbach J., Vivares C.P.;
Weissenbach J., Mincker D., P.;
Weissenbach J., Mincker D., Mincker P., Saurin W., Gouy M.,
Weissenbach J., Mincker D., Weissenbach J., Hypochetical protein.

SEQUENCE 105 AA; 11897 MW; 08059108C05D3BB9 CRC64;
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NCBI_TaxID=6035,
                                                                                                                                                                                                                                                                                                                                                   Query Match 95.0%; Score 19; DB 9; Length 104; Best Local Similarity 100.0%; Pred. No. 1.6e+03; Matches 4; Conservative 0; Mismatches 0; Indels
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Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases
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01-JUN-2002 (TrEMBLrel. 21, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Hypothetical protein ECUO5_0770.
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01-0TN-2003 (TrEMBLrel. 24, Last sequence update)
01-0TN-2003 (TrEMBLrel. 24, Last annotation update)
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SEQUENCE FROM N.A.
STRAIN=GB-M1;
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SEQUENCE FROM N.A.
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Q8SVK0
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Q856U1
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SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDLINE=22484998; PubMed=12597275;
Kaneko T., Nakamura Y., Sato S., Minamisawa K., Uchiumi T.,
Sasamoto S., Watanabe A., Idesawa K., Iriguchi M., Kawashima K.,
Tabata M., Matsumoto M., Shimpo S., Tsuruoka H., Wada T., Yamada M.,
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Thomson N.R., James K.D., Harris D.E., Quail M.A., Kieser H.,
Harper D., Bateman A., Brown S., Chandra G., Chen C. W., Collins M.,
Cronin A., Fraser A., Goble A., Hidalgo J., Hornsby T., Howath S.,
Huang C.-H., Kieser T., Larke L., Murphy L., Oliver K., O'Neil S.,
Seeger K., Saunders D., Sharp S., Squares R., Squares S.,
Warren T., Wietzorrek A., Woodward J., Barrell B.G., Parkhill J.,
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DNA Res. 9:189-197(2002).
BNBL; AP005950; BAC49378.1; -.
Complete proteome.
SEQUENCE 103 AA; 11104 MW; BF27CB9F90FBB723 CRC64;
                                                                                                                                                                                                 Hopwood D.A.;
Hopwood D.A.;
"Complete genome sequence of the model actinomycete Streptomyces coelicolr A3(2).";
Nature 417:141-147(2002).
EMBL; AL939120; CAC08429.1; --
Hypothetical protein; Complete proteome.
SEQUENCE 103 AA; 11387 MW; 55C2B80589EB75B5 CRC64;
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Mycobacteriophage Barnyard.
Mycuses; dsDNA viruses, no RNA stage; Caudovirales; Siphoviridae.
NCBI_TaxID=205880;
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Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales;
Bradyrhizobiaceae; Bradyrhizobium.
VCBI_TaxID=375;
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01-UUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
Blr4113 protein.
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Best Local Similarity 100.
Matches 4; Conservative
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Q89MS9;
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AC 08568
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STRAIN=LL;
Mobility STRAIN=LC;
Mobi
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Submitted (MAY-2000) to the EMBL/GenBank/DDBJ databases.
REMEL, AESC158; AAG59846.1;
RISSP, P09237; IUWQ.
RESP, P09237; IUWQ.
REROPS; M10.008;
GO; GO:0005578; C:extracellular matrix; IEA.
GO; GO:0005578; C:extracellular matrix; IEA.
GO; GO:0005578; P:proteolysis and peptidolysis; IEA.
RICEPPO; IPRO0626; Peptidase M.
RINTERPO; IPRO0626; Peptidase M.
REAM; PRO0413; Peptidase M.O; I.
REAM; PRO0413; Peptidase M.O; I.
REAM; PRO0413; AMRRIXIN.
REAM; SMO0235; ZnMc; 1.
ROW TER
REAM; RAM REBDB271054928018 CRC64;
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                  Archaea, Buryarchaeota, Methanococci, Methanococcales, Methanococcaceae, Methanococcus.
                                                                                                                                                                                                                                                                                                                STRAIN=LL;
MEDLINE=96011360; PubMed=7592322;
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Best Local Similarity 100.
Matches 4; Conservative
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Matches 4; Conservative
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                                                                                                                                           NCBI_TaxID=39152;
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Q9BGL5
                              SO DER RETARE REPRESENTATION OF THE PROPERTY O
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SECUENCE FROM N.A.

STRAIN=JCH 10545 / 7;

STRAIN=JCH 10545 / 7;

MEDLINE=21456156; PubMed=11572479;

Kawarabayasi Y., Hino Y., Horikawa H., Jin-no K., Takahashi M.,

Rawarabayasi Y., Hino Y., Horikawa H., Jin-no K., Takahashi M.,

Rawarabayasi Y., Hino Y., Horikawa H., Takamiya M., Fukui S.,

Rayarabayasi Y., Nishijima K., Otsuka R., Nakazawa H., Takamiya M., Xato Y.,

Nagai Y., Nishijima Y., Yamazaki J., Kushida N., Oguchi A.,

Noshizawa T., Tanaka T., Kudoh Y., Yamazaki J., Kushida N., Oguchi M.,

Nagai Y., Kikuchi H.;

Complete genome sequence of an aerobic thermoacidophilic

Tranzforaeon, Sulfolobus tokodaii strain7.";

DNA Res. 8.123-140(2001).

EMBL; AP000988; BAB67095.1; -.

DNA Res. 123-140(501).

Remil: AP000988; Lanasposase 29.

Remil: PF04693; Transposase 29.
N [1]
P. SEQUENCE FROM N.A.
PAGDLINE=22592660; PubMed=12705866;
RA Pedulla M.L., Ford M.E., Houtz J.M., Karthikeyan T., Wadsworth C., Redulla M.L., Ford M.E., Houtz J.M., Gross J., Pannunzio N.R., Redulla J.A., Jacobs Sera D., Falbo J., Gross J., Pannunzio N.R., Rakakov J., Lawrence J.G., Jacobs W.R. Jr., Hendrix R.W., R.A. Harfull G.F., Lawrence J.G., Jacobs W.R. Jr., Hendrix R.W., R. Harfull G.F., Grigins of highly mosaic mycobacteriophage genomes.";
R. Crigins of highly mosaic mycobacteriophage genomes.";
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Q96231,
Q96231,
Q96231,
Q96231,
Q96231,
Q1-DEC-2001 (TrEMBLrel. 19, Last sequence update)
Q1-DEC-2001 (TrEMBLrel. 24, Last annotation update)
ATPOCHETICAL Protein ST2000.
ST2000.
Sulfolobus tokodaii.
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Last annotation update)
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P71530;
01-FEB-1997 (TEMBLrel. 02,
01-FEB-1997 (TEMBLrel. 02,
01-OCT-2003 (TEMBLrel. 25,
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NIFX.
Methanococcus maripaludis.
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Best Local Similarity 100.0
Matches 4, Conservative
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771530
10 P7153
10 P7153
10 01-FE
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11 01-CC
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"Complete genomic sequence of Corynebacterium glutamicum ATCC 13032."; complete genomic sequence of Corynebacterium glutamicum ATCC 13032."; EMBL; AP005276; BAB99308.1; -. InterPro; IRRO, 18007138; ABM. Pfam; PF03992; ABM, 1. Complete proteome.
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MEDLINE=22255705; PubMed=1236864;
MEDLINE=22255705; PubMed=1236864;
MEDLINE=22255705; PubMed=1236864;
Gardlen M.J., Hall N., Fung E., White O., Berriman M., Hyman R.W.,
Garlton J.M., Ratherford K.E., Bowman S., Paulsen I.T., James K.,
Bisen J.A., Rutherford K., Salzberg S.L., Craig A., Kyes S.,
Chan M.-S., Nene V., Shallom S.J., Suh B., Peterson J., Angiuoli S.,
Pertea M., Allen J., Selengut J., Haft D., Mather M.W., Valdya N.B.,
Martin D.M.A., Fairlamb A.H., Fraunholz M.J., Roos D.S., Ralph S.A.,
Worfadden G.I., Cummings L.M., Subramanian G.M., Mungall C.,
Venter J.C., Carucci D.J., Hoffman S.L., Newbold C., Davis R.W.,
"Genome sequence of the human malaria parasite Plasmodium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Plasmodium falciparum (isolate 3D7).
Eukarycta, Alveolata, Apicomplexa, Haemosporida, Plasmodium.
NCBL_TaxID=36329;
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EMBL; ARO14842; AAN36006.1; -.
Hypothetical protein.
SEQUENCE: 107 AA; 12714 MW; CA351258FCF46EF5 CRC64;
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01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
01-UJV-2003 (TrEMBLrel. 24, Last annotation update)
Uncharacterized ACR.
GGL0915.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-WAR-2003 (TrEMBLrel. 23, Created) 01-WAR-2003 (TrEMBLrel. 23, Last sequence update) 01-WAR-2003 (TrEMBLrel. 23, Last annotation update) Hypothetical protein.
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STRAIN=ATCC 13032 / DSM 20300 / NCIB 10025;
Nakagawa S.;
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9 VAEF 12
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                                                                                                                                    2 VAEF 5
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QBNRX6
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Matches
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Q8IHV3
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SEQUENCE FROM N.A.
STRAIN-cv. Columbia;
Federspiel N.A., Conway A.B., Conway A.R., Davis K., Brendel V.,
Federspiel N.A., Conway A.B., Chung E., Kurtz D.B., Buehler E.,
Palm C.J., Au M., Araujo R., Chung E., Kurtz D.B., Buehler E.,
Dewar K., Feng J., Kim C., Li Y., Shinn P., Sun H., Oji O.,
Coborne B., Shen Y.K., Toriumi M., Vyotskaia V., Yu G., Theologis A.,
Ecker J., Davis R.W.;
"Genomic sequence of Arabidopsis BAC T7123.";
Submitted (JUN-1998) to the EMBL/GenBank/DDBJ databases.
EMBL.
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STRAIN=74-0R23-1A;
MEDLINE=21135672; PubMed=11238395;
MEDLINE=21135672; PubMed=11238395;
MEDLINE=21135672; PubMed=11238395;
Giles M.D., Werner-Washburne M., Nelson M.A., Narvig D.O.;
"Analysis of the pdx-1 (snz-1/sno-1) region of the Neurospora crassa genome. Correlation of pyriddxine-requiring phenotypes with mutations in two structural genes";
Genetics 197:1067-1075(2001).
EMBL; AR309689; AAK07845.1; --.
HSSP; P80028; 110F.
                                                                                                                                                                                                                                                                                                                                                                                                                                        T7123.13.
Arabidopsis thaliana (Mouse-ear cress).
Arabidopsis thaliana (Mouse-ear cress).
Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids;
eurosids II; Brassicales; Brassicaceae; Arabidopsis.
NCBL_TaxID=3702;
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01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
Putative thioredoxin (56G8.7.

Neurospora crassa.

Neurospora Crassa.

Sordaryota; Macimycotia; Pezizomycotina; Sordariomycetes; Sordariomycetidae; Sordariales; Sordariaceae; Neurospora.

NCBI_TaxID=5141;
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InterPro; IPR006663; Thiored.
Pfam; PF00085; thiored; 1.
PRINTS; PR00421; THTOREDOXIN.
Redox-active center. 107 AA; 11676 MW; CF4E6EAF85BE3776 CRC64;
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                                                                                                                                                                                                                                      023682;
01-JAN-1998 (TrEMBLrel. 05, Created)
01-JAN-1998 (TREMBLrel. 05, Last sequence update)
01-DRC-2001 (TrEMBLrel. 19, Last annotation update)
Cathepsin B-like cysteine proteinase (Fragment).
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DT 01-JP
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Q9C1L1
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ô ; Query Match 95.0%; Score 19; DB 3; Length 107; Best Local Similarity 100.0%; Pred. No. 1.6e+03; Matches 4; Conservative 0; Mismatches 0; Indels

PRT; 107 AA.

Gaps ; 0 Match 107; Score 19; DB 5; Length 107; Local Similarity 100.0%; Pred. No. 1.6e+03; Locales 4; Conservative 0; Mismatches 0; Indels

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PRT; 107 AA.

Corynebacterium glutamicum (Brevibacterium flavum).
Bacteria, Actinobacteria, Actinobacteridae, Actinomycetales;
Corynebacterineae; Corynebacteriaceae; Corynebacterium.
NCBI\_TaxID=1718;

SEQUENCE

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**Q9PU82** (ESULT 69)

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SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
STRAIN=CDC 1551 / Oshkosh;
Fleischmann R.D., Alland D., Eisen J.A., Carpenter L., White O.,
Pleischmann R.D., Alland D., Eisen J.A., Eat D., Hickey E.,
Rolonay J.F., Nelson W.C., Umayam L.A., Ermolaeva M.D., Salzberg S.L.,
Delcher A., Utterback T., Weidman J., Khouri H., Gill J., Mikula A.,
Bishai W.;
"Whole genome comparison of Mycobacterium tuberculosis clinical and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN=AF2122/97;
MEDLINE=22709107; PubMed=12788972;
Garnier T., Eiglmeier K., Camus J.-C., Medina N., Mansoor H.,
Garnier T., Eiglmeier K., Camus J.-C., Monsempe C., Simon S.,
Pryor M., Duthoy S., Grondin S., Lacroix C., Monsempe C., Simon S.,
Harris B., Atkin R., Doggett J., Mayes R., Keating I., Wheeler P.R.,
Parkhill J., Barrell B.G., Cole S.T., Gordon S.V., Hewinson R.G.;
"The complete genome sequence of Mycobacterium bovis.";
proc. Natl. Acad. Sci. U.S.A. 100:7877-7882(2003).
Oliver S., Osborne J., Quail M.A., Rajandream M.A., Rogers J., Rutter S., Seeger K., Skelton S., Squares S., Squares R., Sulston J.E., Taylor K., Whitchead S., Barrell B.G.; Perint biology of Mycobacterium tuberculosis from the complete genome sequence.";
Nature 393:537-544(1998).
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Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales;
Corynebacterineae; Mycobacteriaceae; Mycobacterium.
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                                                                                                                                                                                                                                                                                                                                                                             laboratory strains.";
Submittacd (ARR-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; ALCOJ.446; CAAL6648.1; -.
EMBL; AE007140; AAK47615.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF01381; HTH 3; 1.—
SMARY; SM00530; HTH XRE; 1.
Hypothetical protein; Complete proteome.
SEQUENCE 109 AA; 11802 MW; A66DBE160D79613A CRC64;
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01-OCT-2003 (TrEMBLrel. 25, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
Possible transcriptional regulatory protein.
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Best Local Similarity
Matches 4; Conserv
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SEQUENCE 109 AA;
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SEQUENCE 1
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MEDLINE=982897; PubMed=9634230;
MEDLINE=9828987; PubMed=9634230;
Cole S.T., Brosch R., Parkhill J., Garnier T., Churcher C., Harris D.,
Gordon S.V., Eiglmeier K., Gas S., Barry C.E. III, Tekaia F.,
Badcock K., Babham D., Brown D., Chillingworth T., Connor R.,
Badcock K., Babham K., Filtwell T., Gentles S., Hamlin N., Holroyd S.,
Hornsby T., Jagels K., Krogh A., McLean J., Moule S., Murphy L.,
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01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-MAY-2000 (TrEMBLrel. 24, Last annotation update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
Retinol binding protein (Fragment).
Crocodylus niloticus (Nile crocodile) (African crocodile).
Eukaryota, Metazoa; (Dordata; Craniata; Vertebrata; Buteleostomi; Archosauria; Crocodylidae; Crocodylinae; Crocodylus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Liver;
MEDILINE=2002293; PubMed=10555283;
Hughes S., Zelus D., Mouchiroud D.;
"Warm-blooded isochore structure in nile crocodile and turtle.";
Mol. Biol. Evol. 16:1521-1527(1999).
EMBL; AJOII392; CABS66418.1; -...
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Corynebacterineae; Mycobacteriaceae; Mycobacterium.
                                                               Length 107;
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100.0%; Pred. No. 1.6e+03;
ive 0; Mismatches 0; Indels
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             B5ACF23621078018 CRC64;
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01-UN-1998 (TrEMBLrel. 06, Last sequence update)
01-UN-1098 (TrEMBLrel. 05, Last annotation update)
Hypothetical protein Rv3183.
RV3183 OR MTV014.27 OR MT3275.
                                                         Query Match

95.0%; Score 19; DB 16; I

Best Local Similarity 100.0%; Pred. No. 1.6e+03;

Matches 4; Conservative 0; Mismatches 0;
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GO; GO:0006810; P:transport; IEA.
InterPro; IPR002345; Lipocalin.
InterPro; IPR00056; Lipocalin.
                                                                                                                                                                                                                                                                                                                                     109 AA
               12373 MW;
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PRINTS; PR00179; LIPOCALIN.
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nes 4; Conservative
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               107 AA;
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Pyrococcus furiosus.
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VAEF 76
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                                                                                                                                                                                                 NCBI_TaxID=2261;
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Lopez-Estebaranz J.L., Esteban M., Martin-Gallardo A.;
"A Random DNA Sequencing, Computer-Based Approach for the Generation
Virus Genes 0:0-0(1997).
EMBL, U86919; AAB57977.1; -.
                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                    Molluscum contagiosum virus subtype 1 (MCVI).
Viruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
Molluscipoxvirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.

MEDLINE-2423060, PubMed=12534463;

Nelson K.E., Weinel C., Paulsen I.T., Dodson R.J., Hilbert H.,

Martins dos Santos V.A.P., Fouts D.E., Gill S.R., Pop M., Holmes M.

Brinkac L., Beanan M., Delsoy R.T., Daugherty S., Kolonay J.,

Madupu R., Nelson W., White O., Peterson J., Khouri H., Hance I.,

Chris Lee P., Holtzapple E., Scanlan D., Tran K., Moazzez A.,

Lauber J., Stiepandic D., Hohdisel J., Straetz M., Helm S.,

Kiewitz C., Eisen J., Timmis K.N., Duesterhoeft A., Tuemmler B.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Peudomonas putida (strain KT2440).
Bacteria, Proteobacteria, Gammaproteobacteria, Pseudomonadales,
Pseudomonadaceae, Pseudomonas.
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95.0%; Score 19; DB 16; Length 110;
Best Local Similarity 100.0%; Pred. No. 1.6e+03;
Matches 4; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                        110 AA; 11856 MW; 6AE9CE25FC3DB780 CRC64;
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01-UJN-2003 (TrEMBLrel. 24, Created)
01-UJN-2003 (TrEMBLrel. 24, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
YCII-related domain protein.
                                 011343;
01-JUL-1997 (TrEMBLrel. 04, Created)
01-JUL-1997 (TrEMBLrel. 04, Last sequence update)
01-DEC-2001 (TrEMBLrel. 19, Last annotation update)
                       110 AA.
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                         PRT;
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TIGR; PP4502; -.
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Pfam; PF03795; YCII; 1.
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                                                                      X1-5 protein (Fragment). X1-5.
                         PRELIMINARY;
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Matches 4; Conserv
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                                                                                                                                           NCBI_TaxID=10280;
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Q88EG3
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01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-OTV-2003 (TrEMBLrel. 25, Last annotation update)
Nuclear receptor NHR-1 (Fragment).
Caenorhabditis elegans.
Bukaryota; Metazaa; Nematoda; Chromadorea; Rhabditidae; Rhabditoidea;
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                                                                                                                                                                                                                                                                                                                                               STRAIN=VC1 / DGM 3638 / ATCC 43587 / JCM 8422;
Weiss R.B., Dunn D.M., Robb F.T., Brown J.R.;
Wiss Complete sequence of the Pyrococcus furiosus genome.";
Submitted (FEB-2002) to the EMBL/GenBank/DDBJ databases.
EMBL; ABC10208; AAAB1067.1; -.
InterPro; IPRO/742; HENN.
Pfam; PF05168; DUF712; 1.
Pypothetical protein; Complete proteome.
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Sequence 2, Sequence 4, Sequence 4, Sequence 4, Sequence 4, Sequence 6, Sequence 6, Sequence 6, Sequence 6, Sequence 6, Sequence 9, Sequence 9, Sequence 9, Sequence 9, Sequence 1, Sequence 2, Sequen	Sequence 24, Sequence 24, Sequence 24, Sequence 24, Sequence 24, Sequence 26, Sequence 70, Sequence 70, Sequence 454, Sequence 52, Sequence 52, Sequence 52,
24	2 US-08-459-488A-24 Sequence 24, 3 US-08-459-58A-24 Sequence 24, 3 US-08-459-50AB-24 Sequence 24, 3 US-08-459-444-24 Sequence 24, 4 US-09-547-42-24 Sequence 24, 3 US-08-459-444-52 Sequence 24, 3 US-08-328-32-7008 Sequence 7006 4 US-09-328-32-7008 Sequence 454, 4 US-09-343-681A-5427 Sequence 55, 3 US-08-720-625-5 Sequence 5, 13 US-08-720-625-5 Sequence 5, 13 US-08-720-625-5
25.0 2629 2 US-08-751-189-4 Sequence 4, 25.0 2629 2 US-08-751-189-4 Sequence 4, 25.0 2629 2 US-08-764-445-4 Sequence 4, 25.0 2629 2 US-09-106-854-4 Sequence 4, 25.0 2628 3 US-09-106-8774-6 Sequence 4, 25.0 2628 3 US-09-106-8774-6 Sequence 6, 25.0 2628 3 US-09-107-207-6 Sequence 6, 25.0 2628 4 US-09-603-207-6 Sequence 6, 25.0 2628 4 US-09-603-207-6 Sequence 6, 25.0 US-08-7372-338-6 Sequence 6, 25.0 US-08-7372-338-6 Sequence 6, 25.0 US-08-7372-39 Sequence 6, 25.0 US-08-7372-39 Sequence 9, 20.0 US-08-7372-39 Sequence 9, 20.0 US-08-7372-39 Sequence 9, 20.0 US-08-7372-39 Sequence 9, 20.0 US-08-7372-39 Sequence 12, 20.0 US-08-7372-39 Sequence 22, 20.0 US-08-7372-39 Sequence 22, 20.0 US-08-7372-39 Sequence 22, 20.0 US-08-7372-39 Sequence 22, 20.0 US-08-7372-39 Se	142 1 US-08-459-488-24 Sequence 24, 10 142 3 US-08-459-5988-24 Sequence 24, 10 142 3 US-08-459-5048-24 Sequence 24, 10 142 3 US-08-459-5048-24 Sequence 24, 142 4 US-09-647-422-24 Sequence 24, 143 3 US-08-959-5048-52 Sequence 24, 143 4 US-09-328-35-7008 Sequence 52, 143 4 US-09-328-35-7008 Sequence 454, 15 US-09-134-000C-4544 Sequence 454, 16 US-09-134-0818-5427 Sequence 57, 17 US-09-543-6818-5427 Sequence 57, 17 US-08-720-625-5 Sequence 57, 1
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                                                                               Sequence 12815, A Sequence 23.29 A Sequence 23.49, Appli Sequence 8, Appli Sequence 9, Appli Sequence 13.24, A Sequence 12, Appli Sequence 12, Appli Sequence 16, Appli Sequence 16, Appli Sequence 16, Appli Sequence 16, Appli Sequence 18, Appli Sequence 18, Appli Sequence 18, Appli
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Sequence 2, Appli
Sequence 14, Appli
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Sequence 10, Appli
Sequence 9431, Appli
Sequence 3576, Appli
Sequence 20, Appli
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Sequence 7310, Ap
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Sequence 9313, Ap
Sequence 215815, A
Sequence 23529, A
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Sequent No. 6627739

GENERAL INFORMATION:
APPLICANT: Anderson, John P.
APPLICANT: Basi, Gurigbal
APPLICANT: Basi, Gurigbal
APPLICANT: Doane, Minh Tam
APPLICANT: Power, Michael
APPLICANT: Power, Michael
APPLICANT: Tatenon, Gwen
APPLICANT: Tatenon, Gwen
APPLICANT: Tatenon, Gwen
APPLICANT: Tatenon, Gwen
APPLICANT: Anny Jay
APPLICANT: Many Shuwen
APPLICANT: Many Shuwen
APPLICANT: Wany Wanger: Go/139,172
PRIOR PLING DATE: 1999-06-15
NUMBER OF SEQ ID NOS: 104
SEQ ID NO 78
FEATURE: DATE
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US-09-724-566A-78
US-09-489-039A-7310
US-09-540-236-2149
US-09-489-039A-12815
US-09-489-039A-12815
US-09-525-991A-23529
US-09-53702-23-2
US-09-372-42A-8
US-09-372-42A-12
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US-09-372-42A-12
US-09-372-42A-14
US-09-372-422A-14
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US-09-372-422A-14
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-328-352-6427
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ORGANISM: Artificial Sequence
  NAME/KEY: MOD_RES
LOCATION: 3
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US-09-724-566A-78
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; Sequence 86, Application US/08197484
; Patent No. 6419931
; GENERAL INFORMATION:
    APPLICANT: CHESINUT, Robert W.
    APPLICANT: CELIS, Bleesandro D.
    APPLICANT: CELIS, Esteban
    APPLICANT: GRAY, Howard
    TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR ELICITING
    TITLE OF INVENTION: CLI IMMUNITY
    NUMBER OF SEQUENCES: 153
    CORRESPONDENCE ADDRESS: 153
    CORRESPONDENCE ADDRESS:
    ADDRESSEE: Townsend and Townsend Khourie and Crew
    STREET: Steuart Street Tower, One Market Plaza
    CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                         GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Basi, Guriqbal
APPLICANT: Doane, Minh Tam
APPLICANT: Frigon, No. 6627739mand
APPLICANT: Frigon, No. 6627739mand
APPLICANT: Prigon, No. 6627739mand
APPLICANT: Power, Michael
APPLICANT: Gover, Michael
APPLICANT: Tatsuno, Gwen
APPLICANT: Tatsuno, Gwen
APPLICANT: Wang, Sukman
APPLICANT: Wang, Sukmen
APPLICANT: McConlogue, Lisa
TITLE OF INVENTION: Methods
FILE REFERENCE: 228-US-NEWC2
CURRENT APPLICATION NUMBER: US/09/724,566A
CURRENT APPLICATION NUMBER: US 09/501,708
FRIOR FILING DATE: 2000-11-28
FRIOR FILING DATE: 1999-02-10
FRIOR FILING DATE: 1999-02-10
FRIOR FILING DATE: 1999-06-15
NUMBER OF SEQ ID NOS: 104
SEQ ID NOS: 104
SEQ ID NOS: Pastered for Windows Version 4.0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; OTHER INFORMATION: Xaa is hydroxyethylene or statine US-09-724-566A-81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OTHER INFORMATION: Peptide inhibitor P4-P4' XD-V
                                                                                                                                                                                        ; Sequence 81, Application US/09724566A; Patent No. 6627739; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT ORGANISM: Artificial Sequence
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VAEF 5
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US-09-724-566A-81
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Sequence 73, Application US/09724566A
Patent No. 6627739
GENERAL INFORMATION:
APPLICANT: Basi, Gurigbal
APPLICANT: Basi, Gurigbal
APPLICANT: Frigon, No. 6627739mand
APPLICANT: Frigon, No. 6627739mand
APPLICANT: Somer, Michael
APPLICANT: Sinha, Sukanto
APPLICANT: Sinha, Sukanto
APPLICANT: Tatsuno, Gwen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; TOPOLOGY: unknown
; MOLECULE TYPE: peptide
US-08-197-484-145
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APPLICANT:
APPLICANT:
APPLICANT:
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APPLICANT: CHESTNUT, Robert M.
APPLICANT: GETTE, Alessandro D.
APPLICANT: GETTE, Alessandro D.
APPLICANT: GETTE, Beteban
APPLICANT: GEAY, Howard
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR ELICITING
TITLE OF INVENTION: CTL IMMUNITY
NUMBER OF SEQUENCES: 153
CORRESPONDENCES: 153
CORRESPONDENCES: ADDRESS:
ADDRESSEE: Towneend and Townsend Khourie and Crew
STREET: Steuart Street Tower, One Market Plaza
CITY: San Francisco
STATE: California
COUNTNY: US
ZIP: 94105.1493
ZIP: 94105.1493
ZIP: PLOPPY disk.
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MEDIUM TYPE: Floppy disk
COMPUTER. TEADABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER. IBM FC compatible
COMPUTER. IBM FC COMPACIBLE
COMPUTER. IBM FC COMPACIBLE
COMPUTER. IBM FC COMPACIBLE
COMPUTER. IBM FC COMPACIBLE
SOFTWARE: PATCHIL Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
FILING DATE: 16-FEB-1994
CLASSIFTCATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/935,811
FILING DATE: 26-AUG-1992
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                     PALCA METALCALOW DATA:
PALCATION NUMBER: US 07/874,491
FILING DATE: 27-APR-1992
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: US 07/827,682
FILING DATE: 29-JAN-1992
PRIOR APPLICATION DATE: 39-JAN-1992
PRIOR PAPPLICATION DATE: 26-AUG-1991
ATTORNEY/AGENT INFORMATION:
NAME: PATRELES SECOND NUMBER: 31,990
REGISTRATION NUMBER: 31,990
REPERPAX: (206) 623-6793
INFORMATION FOR SEQ ID NO: 86:
SEQUENCE CHARACTERISTICS:
PURNORMATION FOR SEQ ID NO: 86:
ELENGTH: 9 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    14137-26-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 145, Application US/08197484 Patent No. 6419931 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRANDEDNESS: unknown
TOPOLOGY: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY: unknown
MOLECULE TYPE: peptide
3-08-197-484-86
California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 4: Conserva
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 VAEF 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S-08-197-484-145
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Gaps
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APPLICANT: Tung, Jay
APPLICANT: Tung, Jay
APPLICANT: Wang, Shuwen
APPLICANT: Wang, Shuwen
APPLICANT: Waconlogue, Lisa
TITLE OF INVENTION: Methods
FILE REPRENCE: 228-028-NEWCZ
CURRENT APPLICATION NUMBER: US/09/724,566A
CURRENT APPLICATION NUMBER: US/09/724,566A
CURRENT APPLICATION NUMBER: US/09/724,566A
PRIOR FILING DATE: 2000-01-10
PRIOR APPLICATION NUMBER: 60/119,571
PRIOR APPLICATION NUMBER: 60/119,71
PRIOR APPLICATION NUMBER: 60/119,71
PRIOR APPLICATION NUMBER: 60/119,172
PRIOR FILING DATE: 1999-06-15
NUMBER OF SEQ ID NOS: 104
SOFTWARE: FastSEQ for Mindows Version 4.0
LENGTH: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 95.0%; Score 19; DB 4; Length 9; Best Local Similarity 100.0%; Pred. No. 3e+05; Matches 4; Conservative 0; Mismatches 0; Indels
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
    APPLICATION NUMBER: US/08/197,484
    FILING DATE: 16-FBE.1994
CLASSITCATION: 424
PRIOR APPLICATION DATA:
    APPLICATION NUMBER: US 07/935,811
    APPLICATION NUMBER: US 07/935,811
    APPLICATION DATA:
    APPLICATION NUMBER: US 07/749,568
    ATTORNEY/AGENT INFORMATION:
    NAME: PERMEDIES, 26-AUG-1991
    ATTORNEY/AGENT INFORMATION:
    APPLICATION NUMBER: 14137-26-4
    TELEPAX: (206) 623-6793
    INFORMATION FOR SEQ ID NO: 145:
    SEGUENCE CHARACTERISTICS:
    LENGTH: 9 amino acids
    TYPE: AUKNOWN
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APPLICANT: Anderson, John P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: amino acid
STRANDEDNESS: unb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2 VAÉF 5
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                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 86, Application PC/TUS9502121
Sequence 86, Application PC/TUS9502121
APPLICANT:
APPLICANT:
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR ELICITING
TITLE OF INVENTION: CTL IMMUNITY
NUMBER OF SEQUENCES: 153
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PRECENT Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 95.0%; Score 19; DB 5; Length 9; Best Local Similarity 100.0%; Pred. No. 3e+05; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                            95.0%; Score 19; DB 4; Length 9; 100.0%; Pred. No. 3e+05; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
PLICATION NUMBER: PCT/US95/02121
FILING DATE: 16-FEB-1995
                                              FEATURE:
OTHER INFORMATION: P4-P4'staD-V peptide inhibitor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE: 16-FBB-1995
CLASSIFICATION:
PRIOR APPLICATION NUMBER: US 08/197,484
FILING DATE: 16-FBB-1994
FILING DATE: 16-FBB-1994
FRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/935,811
FILING DATE: 26-AUG-1992
FRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/874,491
FILING DATE: 27-APR-1992
FRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/827,682
FILING DATE: 29-JAN-1992
FRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/49,568
FILING DATE: 26-AUG-1991
ATTORNEY/AGENT INFORMATION:
NAME: PARMEL-BOCKET NUMBER: 31,990
REGISTRATION NUMBER: 31,990
REGISTRATION NUMBER: 31,990
REFERENCE/DOCKET NUMBER: 31,990
REFERENCE/DOCKET NUMBER: 14137-26-4P
TELECOMMUNICATION INFORMATION:
TELEPHONE: (206) 467-9500
                                                                                                                    NAME/KEY: MOD_RES
1. LOCATION: 5
1. OTHER INFORMATION: Xaa is statine moiety
US-09-724-566A-73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELEFAX: (415) 543-5043
INFORMATION FOR SEQ ID NO: 86:
SEQUENCE CHARACTERISTICS:
TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                            Query Match
Best Local Similarity 100.
Lange 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          , MOLECULE TYPE: peptide
PCT-US95-02121-86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    amino acid
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GREERAL INFORMATION:

GREERAL INFORMATION:

APPLICATION

TILLE OF INVESTION:

TILLE OF INVESTION:

CONTINEE IN FORMATION:

APPLICATION NUMBER:

PRICE SPECIAL IN FORMATION:

APPLICATION NUMBER:

APPLICATION NUMBER:

PRICE SPECIAL IN FORMATION:

APPLICATION NUMBER:

APPLICATIO
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Sequence 69, Application US/08487890A
Patent No. 5708149
GENERAL INFORMATION:
APPLICANT: LOOSMORE, Sheena
APPLICANT: Harkness, Robin
APPLICANT: Schryvers, Anthony
APPLICANT: Chong, Pele
        Query Match
Best Local Similarity 100.
Matches 4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               linear
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US-08-487-890A-69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-733-825-3
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APPLICANT: Wang, Shuwen
APPLICANT: Wang, Shuwen
APPLICANT: Wang, Shuwen
APPLICANT: McConloque, Lisa
TITLE OF INVENTION: Beta-Secretase Enzyme Compositions and
TITLE OF INVENTION: Methods
FILE REFERENCE: 228-US-NEWC2
CURRENT APPLICATION NUMBER: US/09/724,566A
CURRENT FILING DATE: 2000-11-28
PRIOR PILING DATE: 2000-02-10
PRIOR PLICATION NUMBER: 0/119,571
PRIOR PLICATION NUMBER: 60/119,571
PRIOR PLICA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        95.0%; Score 19; DB 4; Length 14; 100.0%; Pred. No. 48; 0; Indels tive 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OTHER INFORMATION: P10-P4'staD-V peptide inhibitor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: MOD_RES
LOCATION: 10
OTHER INFORMATION: Xaa is statine moiety
S-09-724-566A-72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Anderson, John P.
APPLICANT: Basi, Guridbal
APPLICANT: Basi, Guridbal
APPLICANT: Frigon, No. 6627739mand
APPLICANT: John, Varghese
APPLICANT: Power, Michael
APPLICANT: Sinha, Sukanto
APPLICANT: Sinha, Sukanto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 97, Application US/09724566A Patent No. 6627739 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 100.
Matches 4; Conservative
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GEGUERCA 3, Application US/08733825

FACERT No. 537839

GENERAL INFORMATION:
APPLICANT: Toth, Matthew J.
APPLICANT: Toth, Matthew J.
APPLICANT: Toth, Matthew J.
APPLICANT: Huwyler, Loslie R.
TITLE OF INVENTION: Coding Sequences for Mevalonate TITLE OF INVENTION: Pyrophosphate Decarboxylase
CORRESPONDENCE ADDRESS:
ADDRESSEE: No. 5337839artis Patent and Trademark Department STRET: 59 Route 10
CITY: East Hancher Compatible
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: RADBABLE FORM:
MEDIUM TYPE: RIOPRY disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: Patent IN Release #1.0, Version #1.30
COMPUTER: PATENT AND ATA:
APPLICATION NUMBER: US 60/005,652
ATTORNEY/AGENT INFORMATION:
APPLICATION NUMBER: 32.00
REGISTERATION NUMBER: 33.00
REFERENCE COMPATION NUMBER: 33.00
REGISTERATION NUMBER: 33.00
REG
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0
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DB 4; Length 14;
48;
                                                                                            0; Indels
                                                                                                 Mismatches
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APPLICANT: Agre, Peter C.
TITLE OF INVENTION: Isolation, Cloning and Expression of
TITLE OF INVENTION: Transmembrane Water Channel Proteins
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                95.0%; Score 19; DB 1; Length 35; 100.0%; Pred. No. 1.3e+02;
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ALDRESSES:
ALDRESSES:
ALDRESSES:
CITY: Washington, D.C.
CITY: Washington, D.C.
COUNTRY: US
ZIP: 20001
COMFUTER READABLE FORM:
MEDIUM TYES: FIDEPPY disk
COMFUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/393,996A
FILING DATE: 14-FEB-1995
CLASSIFICATION: 435
ATTONREY/AGENT INFORMATION:
NAME: POSOTER, LAUTENCE H.
REGISTRATION NUMBER: 34,698
REBERRICE/POCKET NUMBER: 1107.48633
TELLEPAN: 202 508-9100
TELLEPAN: 202 508-9100
TELLEPAN: 202 508-929
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Mismatches
                   APPLICATION NUMBER: US/08/468,763
FILING DATE: 06-UUN-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION DATA:
FILING DATE: 124-FB8-1995
ATTORNEY/AGENT INFORMATION:
NAME: POSOSIASE, LAURENCE H.
REGISTRATION NUMBER: 34,698
REFERENCE/DOCKET NUMBER: 1107.48633
TELECOMMUNICATION INPORMATION:
TELEPHONE: 202 508-910
INPORMATION FOR ESQ ID NO. 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 35 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 1, Application US/08393996A
Patent No. 5858702
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: Banner & Allegretti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 100.0
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: amino acid
STRANDEDNESS: si
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 VAEF 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-393-996A-1
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| Sequence 1, Application US/08468763 |
| Sequence 1, Application US/08468763 |
| Patent No. 5741671 |
| GENERAL INFORMATION: | APPLICANT: Agre, Peter C. |
| TITLE OF INVENTION: Isolation, Cloning and Expression of TITLE OF INVENTION: Transmembrane Water Channel Proteins NUMBER OF SEQUENCES: 19 |
| CORRESPONDENCE ADDRESS: ADDRESSEE: Banner & Allegretti |
| STREET: 1001 G Street, N.W. |
| CITY: Washington, D.C. |
| STATE: D.C. |
| STATE: US |
| COUNTRY: US |

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                                                                                                                                                                                                                                                       AUDKESSEE: 6th Floor, 330 Unviersity Avenue
CITY: Toronto
STARE: Ontario
COUNTRY: Canada
ZIP: M5G 1R7
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OOFBATUNG SYSTEM: PC-DOS/MS-DOS
SOFTWARE: BM PC compatible
COMPUTER: BM PC compatible
OOFBATUNG SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/487,890A
FILING DATE: 07-JUN-1993
CLASSIFICATION NUMBER: US 08/175,116
FILING DATE: 29-DEC-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/148,968
FILING DATE: 29-DEC-1993
ATTORNEY/AGENT INFORMATION:
APPLICATION NUMBER: 1038-466 MIS:jb
FILING DATE: SP-DEC-1993
ATTORNEY/AGENT INFORMATION:
REGISTRATON NUMBER: 1038-466 MIS:jb
FILING SEQ ID NO: 69:
SEQUENCE CHRAACTERISTICS:
LENGTH: 35 amino acide
STRANDENESS: single
TOTHER DATE: ADDIAGO ACIDE
STRANDENESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: PatentIn Release #1.0, Version #1.25
                      APPLICANT: Yang, Yan-Ping
APPLICANT: Murdin, Andrew
APPLICANT: Murdin, Andrew
APPLICANT: Michel
TITLE OF INVENTION: Transferrin Receptor Genes
NUMBER OF SEQUENCES: 147
CORRESPONDENCE ADDRESS:
ADDRESSEE: Sim & MCBurney
STREET: 6th Floor, 330 Unviersity Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    95.0%; Score 19; DB 1; 100.0%; Pred. No. 1.3e+0
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COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
Gray-Owen, Scott
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.
Matches 4; Conservative
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TOPOLOGY:
US-08-487-890A-69
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US-08-337-483-69;
; Sequence 69, Application US/08337483;
Patent No. 5922562;
; GENERAL INFORMATION;
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Best Local Similarity 100.
Matches 4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 VAEF 5
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  95.0%; Score 19; DB 2; Length 35; 100.0%; Pred. No. 1.3e+02; iive 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OPERATIONS SYSTEM: PC-DOS/WB-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/478,435
FILING DATE: 07-JUN-1995
CLASSIFICATION: 435
PRIOR APPLICATION NUMBER: US 08/337,483
FILING DATE: 08-000-1994
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/175,116
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/175,116
FILING DATE: 29-DEC-1993
PRIOR APPLICATION NUMBER: US 08/148,968
FILING DATE: 08-NOV-1993
ATTORNEY/AGENT INFORMATION:
NAME: Stewart, Michael I
REGISTRATION NUMBER: 24,973
RELEPAK: (416) 595-1163
INFORMATION FOR SEQ ID NO: 69: SEQUENCE CHARACTERISTICS:
LEMGTH: 35 amino acide
TYPE: amino acide
TYPE: amino acide
TYPE: amino acide
                                                                                                                                                                                                                                                                                                                         APPLICANT: Loosmore, Sheena
APPLICANT: Loosmore, Robin
APPLICANT: Ghory, Robin
APPLICANT: Gray-Owen, Scott
APPLICANT: Gray-Owen, Scott
APPLICANT: Yang, Yan-Ping
APPLICANT: Murdin, Andrew
APPLICANT: Riein, Michel
TITLE FOR INVENTION: Transferrin Receptor Genes
NUMBER OF SEQUENCES: 147
CORRESPONDENCE ADDRESS:
ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      E: Sim & McBurney
Suite 701, 330 University Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: Suite 701, 330 University
CITY: Toronto
STATE: Ontario
COUNTRY: Canada
ZIP: MSG 1R7
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC COMPATIBLE
COMPUTER: SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                              Sequence 69, Application US/08478435
Patent No. 5922323
Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                            14 VAEF 17
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                                                                                               2 VAEF 5
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IS-08-478-435-69
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14 VAEF 17

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APPLICANT: Harkess, Robin
APPLICANT: Harkess, Robin
APPLICANT: Harkess, Robin
APPLICANT: Harkess, Robin
APPLICANT: Glaryers, Anthony
APPLICANT: Glaryers, 147
CORRESPONDENCES, 147
CORRESPONDENCES, 147
CORRESPONDENCES, 147
CORRESPONDENCES, 147
CORRESPONDENCES, 147
CORRESPONDENCES, 147
CORPUTES, TRAP Compatible
CORPUTES, TRAP
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PC-DOS/MS-DOS
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Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                            amino acid
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CITY: Toronto
                                                                                                                                                                                                                                                                                                 STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                       2 VAEF 5
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US-08-474-671-69
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indela
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Locemore, Sheena
APPLICANT: Harkness, Robin
APPLICANT: Genevers, Anthony
APPLICANT: Chong, Pele
APPLICANT: Gray-Owen, Scott
APPLICANT: Gray-Owen, Scott
APPLICANT: Gray-Owen, Scott
APPLICANT: And, Yan-Ping
APPLICANT: Klein, Michel
ITLE OF INVENTION: Transferrin Receptor Genes
NUMBER OF SEQUENCES: 147
CORRESPONDENCE ADDRESS:
ADDRESSEE: Sim & McBurney
STREET: Suite 701, 330 University Avenue
CITY: Toronto
CITY: Toronto
CITY: Toronto
STATE: Ontario
COUNTR: Canada
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match

Best Local Similarity 100.0%; Powatches 4; Conservative 0;
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                              TYPE: amino acid
STRANDEDNESS: six
                                                                                                                                                                                                                                                                                                                                                                                                   linear
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US-08-474-671-69
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COUNTRY: Canada

ZIP: MGG IR7
COMPUTRY: Canada
COMPUTRY: READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTRY: IBM FC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
CURRENT APPLICATION NUMBER: US/08/483,577A
FILING DATE: 07-JUN-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/337,483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Loosmore, Sheena
APPLICANT: Loosmore, Robin
APPLICANT: Harkness, Robin
APPLICANT: Chryers, Anthony
APPLICANT: Chong, Pele
APPLICANT: Gray-Owen, Scott
APPLICANT: Yang, Yan-Ping
APPLICANT: Murdin, Andrew
APPLICANT: Klein, Andrew
APPLICANT: Klein, Michel
TITLE OF INVENTION: Transferrin Receptor Genes
NUMBER OF SEQUENCES: 160
CORRESCONDENCE ADDRESS:
ADDRESSEE: Sim & McBurney
STREET: Suite 701, 330 Unviersity Avenue
SOFERALING CLOSE #1.0, Verblum SOURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/474,671
FILING DATE: 07-UW-1995
CLASSIFICATION DATA:
APPLICATION NUMBER: US 08/337,483
FILING DATE: 08-NOV-1994
CLASSIFICATION DATA:
APPLICATION NUMBER: US 08/175,116
FILING DATE: 09-DEC-1993
FILING DATE: 09-DEC-1993
PRIOR APPLICATION DATA: 29-DEC-1993
PRIOR APPLICATION NUMBER: US 08/175,116
FILING DATE: 08-NOV-1993
ATTORNEY APPLICATION NUMBER: 29-DEC-1993
PRIOR APPLICATION NUMBER: US 08/148,968
FILING DATE: 08-NOV-1993
ATTORNEY AGENT INFORMATION:
NAME: STEWATE, Michael I
REGISTRATION NUMBER: 24,973
REFERENCE/DOCKET NUMBER: 24,973
TELESOMUNICATION INFORMATION:
TELESTER OF SECUENCE CHARACTERISTICS:
TENGTH 35 amino acids
                      Patentin Release #1.0, Version #1.25
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FILING DATE: 08-NOV-1993
ATTORNEY/AGENT INFORMATION:
NAME: Stewart, Michael I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                       14 VAEF 17
                                                                                                                                                                                                                                                                                                                                                                                   2 VAEF 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; TOPOLOGY:
US-08-637-654-69
                                                                                                                                                                                                                                                                     US-08-897-438-69
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Mismatches
              PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/175,116
FILING DATE: 29-DE-1993
PRIOR APPLICATION NUMBER: US 08/148,968
FILING DATE: 08-NOV-1993
ATTORNEY/AGENT INPORMATION:
NAME: Stewart, Michael I
REGISTARATION NUMBER: 24,973
REFERENCE/DOCKET NUMBER: 24,973
REFERENCE/DOCKET NUMBER: 1038-511
TELEPORE (416) 595-1155
TELECOMMUNICATION INPORMATION:
TELEPAR: (416) 595-1163
INFORMATION FOR SEQ ID NO: 69:
SEQUENCE CHARACTERICTICS:
LENGTH: 35 amino acids
TYPE: amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLUSSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION UNDRER: US 08/483,577
FILING DATE: 07-UN-1995
PRIOR APPLICATION NUMBER: US 08/337,483
FILING DATE: 08-NOV-1994
PROR APPLICATION DATA:
APPLICATION NUMBER: US 08/37,116
FILING DATE: 29-DEC-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/175,116
FILING DATE: 29-DEC-1993
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ESULT 19
S-08-897-438-69
Sequence 69, Application US/08897438
Patent No. 6262016
GENERAL INFORMATION:
LOOSMOTE, Sheena
  08-NOV-1994
                                                                                                                                                                                                                                                                                                                                                                                                                       Ouery Match
Best Local Similarity 100.0
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                TOPOLOGY: linear IS-08-483-577A-69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         14 VARF 17
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TELECONNEY/AERT INFORMATION:

NAME: Stewart PRODMATION:

TELECONNECTION RECEDENCY, 1039-720

TELECONNECTION RECEDENCY, 1039-720

TELECONNECTION RECEDENCY, 1039-1163

TELECONNECTION RECEDENCY, 10416 1959-1163

TELECONNECTION RECEDENCY, 10416 1951-1163

TELECONNECTION RECEDENCY, 10416 1951-1163

TELECONNECTION RECEDENCY, 10416 1951-1163

DEPT. APPLICANT: OF 10416 1951-1163

DEPT. APPLICANT: OF 10416 1951-1163

APPLI
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DB 4; Lenz
3. 1.38+02; 1.36+18
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
APPLICANT: LOGEMORE, Sheena
APPLICANT: LOGEMORE, Robin
APPLICANT: Schryvers, Anthony
APPLICANT: Chong, Pele
APPLICANT: Gray-Owen, Scott
APPLICANT: Yang, Yan-Ping
APPLICANT: Murdin, Andrew
APPLICANT: Murdin, Andrew
APPLICANT: Murdin, Michel
TITLE OF INVENTION: Transferrin Receptor Genes
NUMBER OF SEQUENCES: 160
CORRESPONDENCE ADDRESS:
ADDRESSEE: Sim & McBurney
STREET: 6th Floor, 330 Unviersity Avenue
               Query Match
Best Local Similarity 100.0%; Pred. No. 1.3
Matches 4; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 69, Application US/08649518 Patent No. 6361779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Los: Bingle
linear
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US-09-489-039A-13555
US-09-489-039A-13555
J Sequence 13555, Application US/09489039A

Sequence 13555, Application US/09489039A

Patent No. 6610887
Patent No. 6610887

TOTILE OF INVENTION:
TITLE OF INVENTION:
TITLE OF INVENTION:
PILE REPERENCE: 2709-2004001

CURRENT APPLICATION NUMBER: US/09489,039A

CURRENT FILING DATE: 2000-01-27

PRIOR APPLICATION NUMBER: US 60/117,747

PRIOR APPLICATION NUMBER: US 60/117,747

PRIOR FILING DATE: 1999-01-29

NUMBER OF SEQ ID NOS: 14342

SEQ ID NO 13555

LEAST CONTRACT: 69
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Sequence 80, Application US/09393634

Sequence 80, Application US/09393634

Patent No. 6558910

GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Adder, Jon Elliot
APPLICANT: Ryba, Nick
APPLICANT: Ryba, Nick
APPLICANT: Hoon, Mark
APPLICANT: The Regents of the University of California
APPLICANT: The Regents of the University of California
APPLICANT: The Regents of the University of California
APPLICANT: The Government of the University of America
APPLICANT: The Government of Health and Human Services
TITIE OF INVENTION: SP, a No. 6558910el Family of Taste Receptors
TITIE REPERENCE: 023078-09800005

TITIE REPERENCE: 1999-09-10

WUMBER OF SEQ ID NOS: 92

SEQ ID NO 80

SEQ ID NO 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 95.0%; Score 19; DB 4; Length 68; Best Local Similarity 100.0%; Pred. No. 2.5e+02; Matches 4; Conservative 0; Mismatches 0; Indels
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Pred. No. 2.6e+02;
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US-09-328-352-7111
; Sequence 7111, Application US/09328352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          , ORGANISM: Klebsiella pneumoniae US-09-489-039A-13555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.0%;
Matches 4; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         , OTHER INFORMATION: human GR24
US-09-393-634-80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT ORGANISM: Homo sapiens
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47 VAEF 50

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2 VAEF 5

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GENERAL INFORMATION:
APPLICANT: Bunkers, Greg J.
APPLICANT: Liang, Jihong
APPLICANT: Liang, Jihong
APPLICANT: Mittanck, Cindy A.
APPLICANT: Seale, Jeffrey W.
APPLICANT: Wu, Yomite S.
APPLICANT: Wu, Yomite S.
PITLE OF INVENTION:
PILE REFERENCE: 38-21(15036)B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 74;
                                                                                                                                                                                                                                                                                                                                             Sequence 10, Application US/08894139
Sequence 10, Application US/08894139
Patent No. 6448376
GENERAL INFORMATION:
APPLICANT: HIJMANS, ELEANORE M.
TITLE OF INVENTION TRANSCRIPTION FACTOR E2F-5
NUMBER OF SEQUENCES: 25
CORRESPONDENCE ADDRESS:
ADDRESSEE: NIXON & VANDERHYE P.C.
STREET: 1100 NORTH GLEBE ROAD
CITY: ARLINGTON
STRATE: VIGGINA
COUNTRY: U.S.A.
ZIP: 222014718 FORM:
MEDIUM TYPE: Floppy disk
COMPUTER READALE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IPM PC COMPATIBLE
SOFTWARE: PC-DOS/MS-DOS
OFFRATING SYSTEM: DR-C-DOS/MS-DOS
OFFRATING SYSTEM: 13-AUG-1997
CLASSIFICATION NUMBER: 32,955
REFERENCE/DOCKET NUMBER: 32,955
REFERENCE/DOCKET NUMBER: 32,955
REFERENCE/TON: 316-4000
TELEPHONE: (701)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          95.0%; Score 19; DB 4; Le
100.0%; Pred. No. 2.8e+02;
tive 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT FILING DATE: 2000-12-07
PRIOR APPLICATION NUMBER: US 60/169,513
PRIOR FILING DATE: 1999-12-07
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Patent No. 6573361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE: (703) 816-4000
TELEFAX: (703) 816-4100
INFORMATION FOR SEQ ID NO: 10: 10: SEGUENCE CHARACTERISTICS:
LENGTH: 74 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY: linear MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
Matches 4; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-732-210-1412
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GENERAL INFORMATION:
APPLICANT: Gary L. Breton et al.
TITLE OF INVENTION: NOTICES ACID AND AMINO ACID SEQUENCES RELATING TO ACINETOBACTER
TITLE OF INVENTION: NOTICES ACID AND THERAPEUTICS
FILE REFRENCE: GTC99-03PA
CURRENT FILING DATE: 1999-06-04
NUMBER OF SEQ ID NOS: 8252
SEQ ID NO 7111
LENGTH: 71
TYDE
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Sequence 10, Application US/08321071A
Patent No. 5672686
GENERAL INFORMATION:
APPLICANT: CHITTENDEN, Thomas D.
TITLE OF INVENTION: APOPTOSIS RELATED PROTEIN BC1-Y, AND METHODS
TITLE OF INVENTION: OF USE THEREOF
NUMBER OF SEQUENCES: 31
CORRESPONDENCE ADDRESS:
ADDRESSEE: Hale and Dorr
STREET: 1455 Pennsylvania Avenue, N.W.
CORPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/321,071A
FILING DATE: 11-OCT-1994
CLASSIFICATION DATA:
APPLICATION NUMBER: BCT/US95/10103
FILING DATE: 09-AUG-1995
PRIOR APPLICATION NUMBER: 08/287,427
FILING DATE: 09-AUG-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
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Best Local Similarity 100.0%; Pred. No. 2.7e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    95.0%; Score 19; DB 4; Length 71; 100.0%; Pred. No. 2.6e+02; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT ORGANISM: Acinetobacter baumannii S-09-328-352-7111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INFORMATION FOR SEQ ID NO: 10: SEQUENCE CHARACTERISTICS: LENGTH: 73 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.
Matches 4; Conservative
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STRANDEDNESS: si
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Gaps

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21 VAEF 24
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                                                                                                                                                                                                 Query Match 95.0%; Score 19; DB 4; Length 88;
Best Local Similarity 100.0%; Pred. No. 3.3e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 12, Application US/07612674
) Retent No. 5668792
GENERL INFORMATION:
APPLICANT: NUBLL, MARK J.
APPLICANT: MULL, MARK J.
APPLICANT: STEWART, DAVID A.
APPLICANT: STEWART, DAVID B.
TITLE OF INVENTION: AN ANTIPROLIFERATIVE PROTEIN
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
ADDRESSED: CUSHMAN, DARBY & CUSHWAN
STREET: 1100 NEW YORK AVENUE, N.W.
STREET: 1100 NEW YORK AVENUE, N.W.
STATE: 20005.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION DATA:
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/612,674
FILING DATE: 19901114
CLASSIFICATION: 435
ATTONNEY/AGENT INFORMATION:
NAME: SCOTT, WATSON T.
REGISTRATION NUMBER: 26,581
REFERENCE/POCKET NUMBER: 26,581
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION:
TELECOMMUNICATION:
TELECOMMUNICATION:
PRIOR APPLICATION NUMBER: US 60/169,340 PRIOR FILING DATE: 1999-12-07 NUMBER OF SEQ ID NOS: 1753 SEQ ID NO 1412 LENGTH: 88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ZIP: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                  ; TYPE: PRT
; ORGANISM: Haemophilus influenzae
US-09-732-210-1412
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INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
LENGTH: 93 amino acids
TYPE: AMINO ACID
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MOLECULE TYPE: peptide
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Best Local Similarity
Matches 4; Conserva
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TELEX: 6
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RESULT 29 US-09-543-681A-5816

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Sequence Staf. Application US/09543681A

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2 VAEF 5
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                                                                                                                                                            STATE: MA
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PCT-US93-05000-8
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                                                                                                                                                                                                                                              Sequence 8, Application US/08246361A
Patent No. 2998582
GENERAL INFORMATION:
APPLICANT: BEACH, David H.
TITLE OF INVENTION: D-TYPE CYCLIN AND USES RELATED THERETO
NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
ADDRESSER: LAHIVE & COCKFIELD
STREET: 60 State Street
CITY: BOSTON
                                 95.0%; Score 19; DB 2; Length 100; 100.0%; Pred. No. 3.8e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           95.0%; Score 19; DB 2; Length 100; 100.0%; Pred. No. 3.8e+02;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ZIP: 01109
COMPUTER READABLE FORM:
MEDIUM TYPE: Flopy disk
COMPUTER: 1EM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOOFWARE: ASCIT (text)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/246,361A
FILING DATE: 19-MAY-1994
CLASSIFICATION NUMBER: US 07/963,308
FILING DATE: 16-OCT-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/963,308
FILING DATE: 16-OCT-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/701,514
FILING DATE: 16-MAY-1991
ATTORNEY/AGENT INFORMATION:
NAME: MACTHOW P. VINCENT
REJESTRATION NUMBER: 36,709
REFERENCE/DOCKET NUMBER: 36,709
REPERENCE/OCKET NUMBER: 36,709
REPERENCE/OCKET NUMBER: 36,709
REPERENCE (617) 227-5941
INFORMATION FOR SEC ID NO: 8:
SEQUENCE CHARACTERISTICS:
LENGTH: 100 amino acids
TYPE: amino acid
STRANDENBES: single
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US-063-463-772-8
Sequence 8, Application US/08463772
; Patent No. 6066501
                                                                           Conservative
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MOLECULE TYPE: peptide
                               Query Match
Best Local Similarity
Matches 4; Conserv
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S-08-464-517-8
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GREREAL INCRAMATION:
INTILA OF INVESTION: BASING H.
ITHIE OF INVESTION: WINNESTED: COCKTELED
RUBBERSONE SHORTSTON: COCKTELED
RUBBERSONE SHORTSTON: COCKTELED
RUBBERSONE SHORTSTON: COCKTELED
RUBBERSONE SHORTSTON: COCKTELED
COUNTY: DALON
COUNTY: DALON
COUNTY: USA
COUNTY: TO: COUNTY: USA
COUNTY: TO: COUNTY: USA
COUNTY: U
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Sequence 21, Application US/08580988A
Patent No. 585451
GENERAL INFORMATION:
APPLICANT: Aggarwal et al.
TITLE OF INVENTION: Tumor Necrosis Factor
TITLE OF INVENTION: Receptor-I-Associated Protein Kinase And Methods
TITLE OF INVENTION: Por Its Use
NUMBER OF SEQUENCES: 27
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dr. Benjamin A. Adler
STREET: SOIL Candle Lane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Gaps
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Best Local Similarity 100.0%; Pred. No. 3.8e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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NAME: Benjamin Aaron Adler, Ph.D., J.D.
REGISTRATION NUMBER: 35, 423
REFERENCE/DOCKET NUMBER: D5721CIP2
TELECOMMUNICATION INFORMATION:
TELEPHONE: 713-777-2321
TELEPHONE: 713-777-6908
INFORMATION FOR SEQ ID NO: 21:
SEQUENCE CHARACTERISTICS:
LENGTH: 101 amino acids
TYPE: amino acid
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COUNTR: USA
ZIP: 77071
COMPUTER READABLE FORM:
MEDIUM TYPE: 1.44 Mb floppy disk
COMPUTER: Apple Macintosh
OPERATING SYSTEM: Macintosh
SOFTWARE: Microsoft Word for Macintosh
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/580,988A
FILING DATE: January 3, 1996
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
FILING DATE:
APPLICATION NUMBER: PCT/US93/05000
FILING DATE: 19930525
CLASSIFICATION: 19930525
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/07/888,178
FILING DATE: 26-MAY-1992
ATTORNEY/ACBTY INFORMATION:
NAMB: Granahan, Patricia
REGISTRATION NUMBER: CSHL91-02A
TELEPOMMUNICATION INFORMATION:
TELEPOMMUNICATION INFORMATION:
TELEPAX: 616-861-9540
INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
LENGTH: 100 amino acids
TYPE: AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY: unknown ; MOLECULE TYPE: protein PCT-US93-05000-8
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CITY: Houston
STATE: Texas
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USA
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BENERAL INFORMATION:

APPLICANT: BEACH, David H.

APPLICANT: BEACH, David H.

APPLICANT: BEACH, David H.

APPLICANT: BEQUENCES: 50

CORRESPONDENCE ADDRESS:

ADDRESSEE: LAHIVE & COCKFIELD

STREET: 60 State Street

CITY: BOSLON
                                                                                                    Query Match 95.0%; Score 19; DB 2; Length 101; Best Local Similarity 100.0%; Pred. No. 3.86+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            95.0%; Score 19; DB 4; Length 103; 100.0%; Pred. No. 3.9e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIPLICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/963,308
FILING DATE: 16-OCT-1992
APPLICATION NUMBER: US 07/888,178
FILING DATE: 26-WAY-1992
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/464,517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
O. OPERATING SYSTEM: PC-DOS/MS-DOS
SOPTWARE: ASCII(text)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.vv
                                           internal
DESCRIPTION: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   , ORGANISM: M.catarrhalis
US-09-540-236-3612
             HYPOTHETICAL: no

ANTI-SENSE: no

; FRAGMENT TYPE: in

; ORIGINAL SOURCE:

US-08-580-988A-21
                 9
                                                                                                                                                                                          70 VAEF 73
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                                                                                                                                                               2 VAEF 5
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY: US
ZIP: 02109
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MOLECULE TYPE: peptide
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US-08-246-361A-25
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Sequence 25, Application US/08246361A
Sequence 25, Application US/08246361A
Patent No. 5998582
GENERAL INFORMATION:
APPLICANT: BEACH, David H.
ATILE OF INVENTION: D-TYPE CYCLIN AND USES RELATED THERETO NUMBER OF SEQUENCES: 50
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 60 State Street
CITY: Boston
STREET: ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            95.0%; Score 19; DB 2; Length 106; 100.0%; Pred. No. 4e+02; tive 0; Mismatches 0; Indels
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ZIPATE: "LAS
ZURTE: "LAS
ZIP: 02109
COMPUTER READALE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: ASCII(text)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/246,361A
FILING DATE: 19-XAY-1994
CLASSIFICATION: 435
REPLICATION NUMBER: US 07/963,308
FILING DATE: 16-OCT-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/888,178
FILING DATE: 16-OCT-1992
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: US 07/701,514
FILING DATE: 16-MAY-1991
ATTORNEY/AGENT INPORMATION:
NAME: MALCHAW P. VINCENT
REFERENCE/DOCKET NUMBER: 36,709
REFERENCE/DOCKET NUMBER: 
APPLICATION NUMBER: US 07/701,514
FILING DATE: 16-MAY-1991
ATTORNEY/AGENT INFORMATION:
NAME: Matthew P. Vincent
REGISTRATION NUMBER: 36,709
REJECOMMUNICATION INFORMATION:
TELEPHONE: (617) 227-7400
TELEPHONE: (617) 227-7401
INFORMATION FOR SEQ ID NO: 25:
SEQUENCE CHARACTERISTICS:
LENGTH: 106 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 95.0
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TOPOLOGY: linear
MOLECULE TYPE: peptide
3-08-464-517-25
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Patent No. 6066501

GENERAL INFORMATION:
    TITLE OF INVENTION: D-TYPE CYCLIN AND USES RELATED THERETO
    NUMBER OF SEQUENCES: 50
    CORRESPONDENCE ADDRESS:
    ADDRESSEE: LAHIVE & COCKFIELD
    STREET: 60 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match

95.0%; Score 19; DB 3; Length 106;

Best Local Similarity 100.0%; Pred. No. 4e+02;

Matches 4; Conservative 0; Mismatches 0; Indels
                       Score 19; DB 2; Length 106;
Pred. No. 4e+02;
                                                                                            0; Indels
95.0%; Scor.
v 100.0%; Pred. No. ---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SCHIII: DESCRIPTION
STATE: MA
COUNTRY.

CONDUTRY: USA
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: AGCII(text)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US 07/963,308
FILING DATE: 16-OCT-1992
APPLICATION NUMBER: US 07/963,308
FILING DATE: 16-OCT-1992
APPLICATION NUMBER: US 07/963,108
FILING DATE: 16-OCT-1992
APPLICATION NUMBER: US 07/963,108
FILING DATE: 16-OCT-1992
APPLICATION NUMBER: US 07/701,514
FILING DATE: 16-WAY-1991
ATTONNEY AGENT INFORMATION:
NAME: MACHEN P. VÎNCENT
REGISTRATION NUMBER: 36,709
REFERENCE/DOCKET NUMBER: 36,709
REPRENCE/DOCKET NUMBER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-489-039A-8721
; Sequence 8721, Application US/09489039A
; Patent No. 6610836
                          Query Match
Best Local Similarity 100.
Matches 4; Conservative
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US-09-252-991A-21614

Sequence 2164, Application US/09252991A

Sequence 2164, Application US/09252991A

Sequence 2164, Application US/09252991A

Sequence 21614, Application US/09252991A

Sequence 21614, Application US/0925291A

Sequence 21614, Application US/0925291A

SEQUENCES RELATING TO PSEUDOWONAS

TITLE OF INVENTION: ARENGINOSA FOR DIAGNOSTICS AND THERAPBUTICS

FILE REFERENCE: 107926.136

CURRENT PAPLICATION NUMBER: US/09/252, 991A

CURRENT FILING DATE: 1999-02-18

FRIOR APPLICATION NUMBER: US 60/074,788

FRIOR APPLICATION NUMBER: US 60/094,190

PRIOR FILING DATE: 1998-07-27

NUMBER OF SEQ ID NOS: 33142

LENGTH: 122
                                     RESULT 41
US 09-489-039A-9915
IS 09-489-039A-9915
Sequence 9915, Application US/09489039A
Patent No. 6610836
GENERAL INFORMATION:
APPLICANT GATY Breton et. al
APPLICANT: GATY Breton et. al
TITLE OF INVENTION: NUCLEIC ALD AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: PREDMONIAE FOR DIAGNOSTICS AND THERAPEUTICS
TITLE OF INVENTION: US 004001
CURRENT PAPLICATION NUMBER: US 00/12,747
PRIOR APPLICATION NUMBER: US 60/117,747
PRIOR PLING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 14342
SEQ ID NO 9915
LINGTH 115
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Sequence 7200, Application US/09489039A

Sequence 7200, Application US/09489039A

Sequence 7200, Application US/09489039A

GENERAL INFORMATION:
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA

FILE REFERENCE: 2709-2004001

FULE SEFERENCE: 2709-2004001

CURRENT FILING DATE: 2000-01-27
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Pseudomonas aeruginosa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Klebsiella pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity 100.
Matches 4; Conservative
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Best Local Similarity
Matches 4; Conserv
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                 APPLICANT: Gary Breton et. al
TITLE OF INVENTION: NUCLBIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: NUCLBIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: NUCLBIC ACID AND THERAPEUTICS
FILE REPERENCE: 2709.2004001
CURRENT APPLICATION NUMBER: US 60/117,747
PRIOR APPLICATION NUMBER: US 60/117,747
PRIOR FILING DATE: 1999-01-29
SEQ ID NOS: 14342
SEQ ID NO 9721
LENGTH: 106
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TITLE OF INVENTION: D-Type Cyclin and Uses Related Thereto
NUMBER OF SEQUENCES: 42
CORRESPONDENCE ADDRESS:
ADDRESSEE: Hamilton, Brook, Smith & Reynolds, P.C.
STREET: Two Militia Drive
CITY: Lexington
STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 95.0%; Score 19; DB 5; Length 106; Best Local Similarity 100.0%; Pred. No. 4e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                             DB 4; Length 106; 4e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/05000
FILING DATE: 19930525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE: LEGGLION CLASSIFICATION DATA:
PRIOR APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
FILING DATE: 26-MAY-1992
ATTORNEY/AGENT INFORMATION:
NAME: Granahan, Patricia
REGIGSTRATION NUMBER: 32,227
REFERNCE/DOCKET NUMBER: CSHL91-02A
TELEFONAVICATION INFORMATION:
TELEPHONE: 616-861-8540
TELEPHONE: 616-861-8540
TELEPHONE: 616-861-8540
INFORMATION FOR SEQ ID NO: 25:
SEQUENCE CHARACTERISTICS:
LENGTH: 106 amino acids
TYPE: .... .... .... .... .... ....
                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 100.0%; Pred. No. 4e-
Matches 4; Conservative 0; Mismatches
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                                                                                                                                                                                                                                                                                                                      TYPE: PRT ORGANISM: Klebsiella pneumoniae
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SENERAL INFORMATION:
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Best Local Similarity
Matches 4; Conserv
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                                                                              US-09-489-039A-12835
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LENGTH: 145
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APPLICANT: Briles, David E.
APPLICANT: McDaniel, Larry S.
APPLICANT: McDaniel, Larry S.
APPLICANT: Yother, Janet
APPLICANT: Yother, Janet
APPLICANT: Brooks-Walter, Alexis
TITLE OF INVENTION: Phenococcal Genes, Portions
TITLE OF INVENTION: Therefrom, and Uses of Such Genes, TITLE OF INVENTION: Therefrom, and Uses of Such Genes, NUMBER OF SEQUENCES: 73
CORRESPONDENCE ADDRESS:
ADDRESSE: Curtis, Morris & Safford, P.C.
STREEN OF THE OF T
                                                                                                                                                                                                                                                                                                                           Length 123;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    95.0%; Score 19; DB 4; Length 129; 100.0%; Pred. No. 4.9e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                               0; Indels
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FILING DATE: 15-SEP-1995
CLASSIFICATION: 435
ATTONEY/AGENT INFORMATION:
NAME: Frommer, William S. REGISTRATION NUMBER: 25,506
REFERENCE/DOCKET NUMBER: 454312-2400
TELECOMMUNICATION INFORMATION: SS: SEQUENCE CHARACTERISTICS: LENGTH: 129 amino acids
                                                                                                                                                                                                                                                                                                                    Score 19; DB 4; L
Pred. No. 4.7e+02;
                                                                                                                                                                                                                                                                                                 95.0%; Scc...
100.0%; Pred. No. ...
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STREET: 530 Fifth Avenue
CITY: New York
PRIOR APPLICATION NUMBER: US 60/117,747
PRIOR FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 14342
SEQ ID NO 7200
LENGTH: 123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STATE: NY
COUNTRY: USA
ZIP: 10036
ZIP: 10036
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S-08-529-055-53
Sequence 53, Application US/08529055
Patent No. 6592876
                                                                                                                                                                                TYPE: PRT
ORGANISM: Klebsiella pneumoniae
S-09-489-039A-7200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 129 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 VAEF 64
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7 VAEF 10

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US-09-198-452A-167

US-09-198-452A-167

Sequence 167, Application US/09198452A

Sequence 167, Application US/09198452A

Sequence 167, Application US/09198452A

Tareat No. 6559244

Tareat No. 6559244

Tareat Normanion: APPLICANT Chlamydia pneumoniae genomic sequence and polypeptides, fragments

TITLE OF INVENTION: Chlamydia pneumoniae genomic sequence and polypeptides, fragments

TITLE OF INVENTION: thereof and uses thereof, in particular for the diagnosis, preversing REFERENCE: 9710-003-999

FILE REFERENCE: 9710-003-999

CURRENT APPLICATION NUMBER: US/09/198,452A

CURRENT FILING DATE: 1998-11-24

NUMBER OF SEQ ID NOS: 6849
Sequence 12835, Application US/09489039A
Better No. 6510836
GENERAL INFORMATION:
BAPLICANT: GATY Breton et. al
APPLICANT: GATY Breton et. al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA
TITLE OF INVENTION: NUCLEIC ACID AND THERAPEUTICS
TITLE OF INVENTION: NUMBER: US/09/489,039A
CURRENT APPLICATION NUMBER: US 60/117,747
PRIOR PILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 14342
SEQ ID NO 12835
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Patent No. 6617156
GENERAL INFORMATION:
APPLICANT: Lynn Doucette-Stamm et al
APPLICANT: APPLICATION:
ENTEROCCCUS FAECALIS FOR DIAGNOSTICS AND THERAPEUTICS
FILE REPERRNCE: 03296-0313
PRIOR APPLICATION NUMBER: US 60/055,778
PRIOR PLILNG DATE: 1997-08-15
NUMBER OF SEQ ID NOS: 6812
SOFTWARE: Patentin version 3.1
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100.0%; Pred. No. 5.6e+02;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity 100.0%; Pred. No. 5.5
4; Conservative 0; Mismatches
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ORGANISM: Klebsiella pneumoniae
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CRGANISM: Chlamydia pneumoniae
US-09-198-452A-167
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Best Local Similarity 100.
Matches 4; Conservative
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ADDRESSEE: STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C. STREET: 1100 New York Avenue, N.W., Suite 600 CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
95.0%; Score 19; DB 3; L
Best Local Similarity 100.0%; Pred. No. 5.8e+02;
Matches 4; Conservative 0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        , MOLECULE TYPE: peptide US-08-460-744-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: amino acid
STRANDEDNESS: no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
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COUNTRY: US
ZIP: 20005
                                                                              COUNTRY:
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| Patent No. 5858655
| GENERAL INFORMATION:
| APPLICANT: Arnold, Andrew | TITLE OF INVENTION: PRAD! Cyclin and its CDNA | NUMBER OF SEQUENCES. | CORRESPONDENCE ADDRESS: | STREES ISTERNE, KESSLER, GOLDSTEIN & POX P.L.L.C. STREET: 1100 New York Avenue, N.W., Suite 600 | CITY: Washington | STRIE: DC | COUNTRY: USA | ZIP: 20005
                                                                                                        DB 4; Le...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 95.0%; Score 19; DB 2; Length 150; 100.0%; Pred. No. 5.8e+02; tive 0; Mismatches 0; Indels
                                                                                                                           Length 145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READBLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: Datem: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/460,694
FILING DATE: 02-UUN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 3, Application US/08460744
Patent No. 6107514
Patent No. 6107514
GENERAL INFORMATION:
APPLICANT: Arnold, Andrew
TITLE OF INVENTION: PRADI Cyclin and its cDNA
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AFELLAND DATE: 02-JUN-1995
CLASSIFICATION: 435
ATTORNEY AGENT INFORMATION:
NAME: MCCORACHY, EVELYN H.
REGISTRATION NUMBER: 35,279
REFERENCE/DOCKET NUMBER: 0609.4070002
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-311-2600
                                                                                                                     Query Match

95.0%; Score 19; DB
Best Local Similarity 100.0%; Pred. No. 5.6
Matches 4; Conservative 0; Mismatches
                                       TYPE: PRT; ORGANISM: Enterococcus faecalis
US-09-134-000C-4292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acid
STRANDEDNESS: not relevant
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO: 3: SEQUENCE CHARACTERISTICS: LENGTH: 150 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 100.
Matches 4; Conservative
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    SEQ ID NO 4292
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Gaps
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Patent No. 6110700
GENERAL INFORMATION:
APPLICANT: ARNOLD, ANDREW
TITLE OF INVENTION: Pradi Cyclin and Its CDNA
NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
ADDRESSER: STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
STREET: 1100 NEW YORK AVE., NW, SUITE 600
COMPUTER READBLE FORM:
MEDIUW TYBE: Floppy disk
CCMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/460,744
FILNG DATE: US/08/1995
ATTONEY/AGENT INFORMATION:
NAME: MCCONCATN WHERE: 35,279
REGISTRATION NUMBER: 35,279
REGISTRATION NUMBER: 35,279
REGISTRATION NUMBER: 35,279
TELEPHONE: 202-371-2600
TELEPHONE: 202-371-2600
TELEPHONE: 202-371-2540
INPORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
"TANGTH: 150 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER: BLODRY disk
MEDIUM TYPE: Floppy disk
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.30
CURRENT APPLICATION NUMBER: US/07/667,711B
FILING DATE: 11-MAR-1991
CLASSIFICATION: 420
ATTORNEY AGENT INFORMATION:
NAME: MCFRAIL, DONALD R.
REGISTRATION NUMBER: 0609.4070000
TELECCOMMINICATION UNDERS: 0609.4070000
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100.0%; Preu. ... 0; Mismatches
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US-09-252-991A-20805
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ORGANISM: Homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
  101 VAEF 104
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                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
ORGANISM:
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Matches
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Sequence 4087, Application US/09134000C
Sequence 4087, Application US/09134000C
Sequence 4087, Application US/09134000C
GENERAL INFORMATION:
APPLICANT: Lynn Doucette-Stamm et al
APPLICANT: Lynn Doucette-Stamm et al
APPLICANT: Lynn Doucette-Stamm et al
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO
TITLE OF INVENTION: MUMBER: US/09/134,000C
CURRENT APPLICATION NUMBER: US 60/055,778
PRIOR APPLICATION NUMBER: US 60/055,778
PRIOR APPLICATION NUMBER: US 60/055,778
PRIOR APPLICATION NUMBER: US 60/055,778
SEQ ID NOS: 6812
SEQ ID NO 4087
ILENGRAP: 153
ILENGRAP: 153
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                                                                                                                                                                                                                                                                                                                                            Sequence Application US/08679493A
Sequence No. 6303295
GENERAL INFORMATION:
APPLICANT: TAYLOr, Ethan W.
APPLICANT: TAYLOr, Ethan W.
TITLE OF INVENTION: SIELENOPROTEINS, CODING SEQUENCES AND METHODS
FILE REFERENCE: 55-95
CURRENT APPLICATION NUMBER: US/08/679,493A
CURRENT FILING DATE: 1996-07-12
PRIOR PLIING DATE: 1995-07-14
PRIOR FILING DATE: 1995-07-14
PRIOR FILING DATE: 1995-07-14
PRIOR FILING DATE: 1995-07-14
SPIOR PLIANTON NUMBER: 60/003,112
PRIOR FILING DATE: 1995-07-14
SPIOR PLIANTON NUMBER: 60/003,112
SPIOR PLIANTON NUMBER: 2.09
SEQ ID NO 2.08
LENGTH: 152
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95.0%; Score 19; DB 4; Length 152; 100.0%; Pred. No. 5.9e+02; live 0; Mismatches 0; Indels
                                                                                                                                      95.0%; Score 19; DB 3; Length 150; 100.0%; Pred. No. 5.8e+02; tive 0; Mismatches 0; Indels
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ilarity 100.0%; Pred. No. 5.9e+02;
Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Enterococcus faecalis
S-09-134-000C-4087
LENGTH: 150 amino acids
TYPE: amino acid
STRANDEDNESS: Single
TOPOLOGY: not relevant
MOLECULE TYPE: peptide
                                                                                                                                    Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4; Conservative
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Best Local Similarity
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Best Local Similarity
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ORGANISM: blueshark
3-08-679-493A-208
                                                                                                                                                                                                                                                            66 VARF 69
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S-09-134-000C-4087
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US-09-252-991A-20805

US-09-252-991A-20805

J Sequence 20805, Application US/09252991A

Sequence 20805, Application US/09252991A

Sequence 20805, Application US/09252991A

Sequence 20805, Application US/09252991A

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS

TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS

TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS

TITLE OF INVENTION: AERUGINOSA FOR DIAGNOSTICS AND THERAPEUTICS

CURRENT FILING DATE: 1999-02-18

PRIOR PLICATION NUMBER: US 60/094,190

PRIOR PAPLICATION NUMBER: US 60/094,190

PRIOR PLICATION NUMBER: US 60/094,190

PRIOR PLICATION NOS: 33142

SEQ ID NO 20805

LENGTH: 156
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Patent No. 644425

GENERAL INFORMATION:
APPLICANT: Reed, Eaven G.
APPLICANT: Lodes, Michael J.
APPLICANT: Mohamath, Roadoh
APPLICANT: Mohamath, Roadoh
APPLICANT: Mohamath, Roadoh
APPLICANT: MOHAMATON: COMPOUNDS FOR THERRY USE
TITLE OF INVENTION: COMPOUNDS FOR THERR USE
TITLE OF INVENTION: LUNG CANDER AND METHODS FOR THEIR USE
TITLE OF INVENTION: LUNG CANDER: US/09/370,838
CURRENT APPLICATION NUMBER: US/09/370,838
CURRENT FILING DATE: 1999-08-09
EARLIER APPLICATION NUMBER: US 09/285,323
EARLIER FILING DATE: 1999-04-02
NUMBER: OF SEQ ID NOS: 289
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 203
LENGTH: 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               95.0%; Score 19; DB 4; Length 156; 100.0%; Pred. No. 6e+02; cive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 164;
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US-08-471-057-16
US-08-471-057-16
US-08-471-057-16
Sequence 16, Application US/08471057
Sequence 16, Application
GENERAL INPORMATION:
APPLICANT: RIBER, MICHAEL C.
APPLICANT: BARR, PHILLE J.
TITLE OF INVENTION: NOVEL APOPTOSIS-MODULATING PROTEINS, DNA TITLE OF INVENTION: ENCODING THE PROTEINS AND METHODS OF USE THEREOF NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
ADDRESSER: MORRISON & FOERSTER
STREET: 755 Page Mill Road
CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 172;
                                                                                                                                                      GENERAL INFORMATION:
APPLICATION
APPLICANT: Hillman, Jennifer L.
APPLICANT: Hillman, Jennifer L.
APPLICANT: Goli, Surya K.
TITLE OF INVENTION: NOVEL HUMAN MACROPHAGE ANTIGEN
NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
ADDRESSE: Incyte Pharmaceuticals, Inc.
STREET: Palo Alto
CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ZUDUTAX: U.S.
ZUP: 94304
ZUP: 94304
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: PASESRO VERSION 1.5
SOFTWARE: PAPLICATION DATA:
APPLICATION NUMBER: US/08/690,095
FILING DATE: Flied Herewith
ATTORNEY/AGENT INFORMATION:
NAME: Billings, Lucy J.
REJERRYCA/DOCKET NUMBER: 9F-0110 US
FELERONG: 15-85-055
FELERONG: 415-85-055
FELERONG: 415-85-055
FELEROX: 415-85-055
FELEROX: 415-85-055
FELEROX: 415-85-055
FELEROX: 1172 amino acids
TYPE: amino acid
STRANDEDRESS: alngle
TYPE: mino acid
STRANDEDRESS: alngle
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100.0%; Pre
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 4; Conserv
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                                       2 VAEF 5
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US-08-690-095-3
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                                       ઠ
APPLICANT: Gary L. Breton et al.

TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO MORAXELLA CATAR
TITLE OF INVENTION: NUCLEIC ACID AND THERAPEUTICS
FILE REFERENCE: 2709, 2005-001
CURRENT APPLICATION NUMBER: US/09/540,236
CURRENT FILING DATE: 2000-04-04
NUMBER OF SEQ ID NOS: 3840
SEQ ID NO 2222
LENGTH: 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NEGLUT'S SECRET 16, ADDICATION US/08471058

Parent No. 577043

GENERAL INFORMATION:
APPLICANT: Rifer, Michael C.
APPLICANT: Barr, Philip J.
TITLE OF INVARION:
PROTEINS MOUNTAINN
TITLE OF INVARION: PROTEINS NODULATING
TITLE OF INVARION: PROTEINS, DNA ENCODING THE PROTEINS AND METHODS OF USE
TITLE OF INVARIATION: PROTEINS, DNA ENCODING THE PROTEINS AND METHODS OF USE
TITLE OF INVARIATION: THEREOF
MUNBERS OF SEQUENCES, 24

CORRESPONDENCE ADDRESS;
ADDRESSES:
ADD
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                                                                                                                                                                                                                                                                                                                                                                                                                                 0: Indels
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                                                                                                                                                                                                                                                                                                                                                                           DB 4; Le
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100.0%; Pred. No. ...
0; Mismatches
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INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
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TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 100.
                                                                                                                                                                                                                                                                                    ) ORGANISM: M.catarrhalis
US-09-540-236-2222
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US-08-471-058-16
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122 VAEF 125
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Sequence 3, Application US/09113789
Sequence 3, Application US/09113789
Sequence 3, Application US/09113789
Sequence 3, Application US/09113789
SERVERAL INFORMATION:
APPLICANT: Hillman, Jennifer L.
APPLICANT: Au-Young, Janice
APPLICANT: Goli, Surya K.
TITLE OF INVENTION: NOVEL HUMAN MACROPHAGE ANTIGEN
NUMBER OF SEQUENCES:
ADDRESSEE: Incyte Pharmaceuticals, Inc.
STREET: 3174 Porter Drive
CITY: Palo Alto
COMPUTE: CA
COMPUTE: DA
COMPUTE: UB
STATE: California
COUNTRY: USA
ZIP: 94304-1018
COMPUTER READALE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM FC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION NUMBER: US/08/471,057
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95.0%; Score 19; DB 3; Le 100.0%; Pred. No. 6.7e+02; tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION:
PRIOR APPLICATION DATA:
PRIOR APPLICATION NUMBER: 08/320,157
FILING DATE: 07-0CT-1994
ATTORNEY/AGENT INFORMATION:
NAME: LEHNHARDT, SUSAN X.
REGISTRATION NUMBER: 33,943
REFERENCE/DOCKET NUMBER: 23647-20007.20
TELEPRONE: (415) 813-5600
TELEPRONE: (415) 494-0792
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ATTORNEY/AGENT INFORMATION:
NAME: Billings, Lucy J.
REGISTRATION NUMBER: 36,749
REFERENCE/DOCKET NUMBER: PF-0110 US
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/690,095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: (415) 494-0792
TELEX: 705141
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
LENGTH: 172 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY: linear
S-08-471-057-16
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0
                                                                                                                        95.0%; Score 19; DB 3; Length 172; 100.0%; Pred. No. 6.7e+02; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
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TELEFANN: 415-845-4166
INPORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 172 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
IMMEDIATE SOURCE:
LIBRARY: GERBank
CLONE: 293274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: (415) 494-0792
TELEX: 706141
INFORMATION FOR SEQ ID NO: 16: SEGUENCE CHARACTERISTICS: LENGTH: 172 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   : 172 amino acids
amino acid
                                                                                                                  Query Match
Best Local Similarity 100.
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Sequence 6739, Application US/09328352
Sequence 6739, Application US/09328352
Patent No. 6562958
GENERAL INFORMATION:
APPLICANT: 62 INVENTION:
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO ACINETOBACTER
TITLE OF INVENTION: BAUMANNII FOR DIAGNOSTICS AND THERAPEUTICS
FILE REPRESENTS: GT-99-0328, 352
CURRENT APPLICATION NUMBER: US/09/328,352
CURRENT FILING DATE: 1999-06-04
NUMBER OF SEQ ID NOS: 8252
SEQ ID NO 6739
LENGTH: 180
                                                                           Gaps
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                                                                                                                                                                                                                                                                          TATLE OF INVENTION: Apoptosis Regulating Gene
TITLE OF SEQUENCES:

NUMBER OF SEQUENCES:

COMPUTER READABLE FORM:

MEDIUM TYPE: IBM PC Comparible
COMPUTER: IBM PC Comparible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30 (EPO)
CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/737,980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      similarity 100.0%; Score 19; DB 4; Length 180; Similarity 100.0%; Pred. No. 7e+02; 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 19; DB 2; Length 175; Pred. No. 6.8e+02;
                                               Score 19; DB 4; Length 174;
Pred. No. 6.8e+02;
                                   95.0%; Scor.
100.0%; Pred. No. c.
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100.0%; Pred. No. c.
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APPLICATION NUMBER: KR 1995-6266
FILING DATE: 24-MAR-1995
INPORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 175 amino acids
TYPE: amino acids
                                                                                                                                                                                                                            Sequence 2, Application US/08737980 Patent No. S843773 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Acinetobacter baumannii
US-09-328-352-6739
, ORGANISM: Klebsiella pneumoniae
US-09-489-039A-9869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                             Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-737-980-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 4; Conserv
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                                                                                                                2 VAEF 5
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US-09-328-352-6739
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Sequence 9869, Application US/09489039A
Patent No. 6610836
GENERAL INFORMATION
PRICE OF INVENTION: WILLEIC ACID AND AMINO ACID SEQUENCES RELATING TO KLEBSIELLA TITLE OF INVENTION: PREDMONIAE FOR DIAGNOSTICS AND THERAPEUTICS
TITLE OF INVENTION: PREDMONIAE FOR DIAGNOSTICS AND THERAPEUTICS
TITLE OF INVENTION: PREDMONIAE FOR DIAGNOSTICS AND THERAPEUTICS
TITLE OF THE REFERENCE: 2709-2004001
CURRENT APPLICATION NUMBER: US/09/489,039A
CURRENT PILING DATE: 2000-01-27
PRICH FILING DATE: 1999-01-29
NUMBER OF SEQ ID NOS: 14342
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 95.0%; Score 19; DB 1; Le Best Local Similarity 100.0%; Pred. No. 6.7e+02; Matches 4; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        linear
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                 122 VAEF 125
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LENGTH: 174
                                                                      RESULT 61
JS-08-193-977-4
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Length 190;
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95.0%; Score 19; DB 1; Length 190

Best Local Similarity 100.0%; Pred. No. 7.4e+02;

Matches 4; Conservative 0; Mismatches 0; Indels
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Patent No. 6087108

GENERAL INFORMATION:

APPLICANT: Bandman, Olga

APPLICANT: Bandman, Olga

APPLICANT: Bandman, Olga

APPLICANT: Bandman, Olga

CONTES EQUENCES:

ADDRESSEE: Incyte Pharmaceuticals, Inc.

STREET: 3174 Porter Drive

COUNTY: Palo Alto

STATE: CA

COUNTY: USA
                                                                                ZIP: 94304
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OOFFUTER: IBM Compatible
OOFFUTER: STEEM: DOS
SOFTWARE: FASTEM: DOS
SOFTWARE: FASTEM: DATA:
APPLICATION NUMBER: US/08/816,241
FILING DATE: F11ed Herewith
CLASSIFICATION: 435
PRIOR APPLICATION NUMBER:
FILING DATE: FILING HERE:
FILING DATE: FILING HERE:
FILING DATE: FILING DATE:
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/816,241
                                                                                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
NAME: Billings, Lucy J.
REGISTRATION NUMBER: 36,749
REPERENCE/POCKET NUMBER: PF-0;
TELEPHONE: 415-85-055
TELEPHONE: 415-85-4166
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 190 amino acids
TYPE: amino acid
: 3174 Porter Drive
Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILING DATE:
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TOPOLOGY: linear
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| LIBRARY: PROSTUT09
| CLONE: 1646823
| US-08-816-241-1
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                                                                 USA
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                             CITY: Pa
STATE: C
COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 68
US-09-128-395-1
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APPLICANT: GARY BRETON
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PROTEUS MIRABIL
TITLE OF INVENTION: DIAGNOSTICS AND THERAPEUTICS
FILE REFERENCE: 2709.1002-001
CURRENT APPLICATION WUMBER: US/09/543,681A
CURRENT APPLICATION NUMBER: US/06/128,706
PRIOR FILING DATE: 1999-04-09
NUMBER OF SEQ ID NOS: 8344
SEQ ID NOS: 8344
                                                                                   Sequence 24441, Application US/09252991A
Patent No. 6551795
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: NUCLEUC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
TITLE OF INVENTION:
FILE REPERENCE: 107196.136
CURRENT PRILING DATE: 1999-02-18
PRIOR PLILING DATE: 1999-02-18
PRIOR PLILING DATE: 1998-07-27
NUMBER OF SEQ 1D NOS: 33142

SEQ ID NO 24341
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Patent No. 5804185
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Bandman, Olga
APPLICANT: Goli, Surya K.
TITLE OF INVENTION: NOVEL RNA EDITING ENZYME
NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
ADDRESSE: Incyte Pharmaceuticals, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 7313, Application US/09543681A Patent No. 6605709
                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
ORGANISM: Pseudomonas aeruginosa
S-09-252-991A-24341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT ORGANISM: Proteus mirabilis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.
Matches 4; Conservative
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Best Local Similarity 100.
Matches 4; Conservative
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                                                                     -09-252-991A-24341
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Gaps

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) ORGANISM: Aspergillus nidulans US-09-232-197-85
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Sequence 1800, Application US/09134000C

Sequence 1800, Application US/09134000C

GENERAL INFORMATION:
TITLE OF INTENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO
TITLE OF INVENTION: NUMBER: US/09/134,000C

CURRENT APPLICATION NUMBER: US/09/134,000C

CURRENT FILING DATE: 1998-08-13

PRIOR APPLICATION NUMBER: US 60/055,778

PRIOR PILING DATE: 1997-08-15

NUMBER OF SEQ ID NOS: 6812

SOFTWARE: Patentin version 3.1

SEQ ID NO 3800

LENGTH: 194
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'o. 7.4e+02; Indels
                                                                                                                                                                                                                                                                                                                                                                          Length 190;
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// Sequence 85, Application US/09232200A

// Sequence 85, Application US/09232200A

// Pacent No. 6288213

// GENERAL INFORMATION:

// APPLICANT: Stahl, Andreas

// APPLICANT: Hirsch, David J.

// APPLICANT: Gimeno, Ruth E.

// APPLICANT: Gimeno, Ruth E.

// APPLICANT: Tartaglia, Louis A.

// TILLE OF INVENTION: FATTY ACID TRANSPORT PROTEINS

// TILLE REFERENCE: WHI97-2193MB

// CURRENT PILLING DATE: 1999-01-14

// EARLIER APPLICATION NUMBER: 60/071,374

// EARLIER PILLING DATE: 1998-01-15

// EARLIER PLING DATE: 1998-01-15

// EARLIER APPLICATION NUMBER: 60/093,491
                                                                                                                                                                                                                                                                                                                                                                                                                         0; Mismatches
NAME: Billings, Lucy J.

REGISTRATION NUMBER: 36,749
REFERENCE/DOCKET NUMBER: PF-0239 US
FILECOMMUNICATION INFORMATION:
FILEPHONE: 415-85-0555
FILEPHONE: 415-845-4166
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 190 amino acids
TYPE: amino acid
TYPE: amino acid
TYPE: alinear
INMEDIATE SOURCE:
INMEDIATE SOURCE:
LIBRARY: PROSTUTO9
CLONE: 1646823
US-09-128-395-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT

ORGANISM: Enterococcus faecalis
US-09-134-000C-3800
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Best Local Similarity 100.0%;
Matches 4; Conservative 0
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Best Local Similarity
Matches 4; Conserv
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US-09-134-000C-3800
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95.0%; Score 19; DB 3; Length 199;
Best Local Similarity 100.0%; Pred. No. 7.8e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                          Sequence 85, Application US/09232201A

Patent No. 6348321

GENERAL INFORMATION:
APPLICANT: Stahl, Andreas
APPLICANT: Hirsch, David J.
APPLICANT: Hirsch, David J.
APPLICANT: Gimeno, Ruth E.
APPLICANT: Gimeno, Ruth E.
APPLICANT: Gimeno, Ruth E.
APPLICANT: Tartaglia, Louis A.
FILE REPERRANCE: WHI97-21934
CURRENT APPLICATION NUMBER: US/09/232,201A
CURRENT FILING DATE: 1999-01-14
EARLIER FILING DATE: 1998-01-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match

95.0%; Score 19; DB 4; Le
Best Local Similarity 100.0%; Pred. No. 7.8e+02;
Matches 4; Conservative 0; Mismatches 0;
FEALLER FILING DATE: 1998-07-20
REALLER APPLICATION NUMBER: 60/110,941
REALLER APPLICATION NUMBER: 60/110,941
REALLER FILING DATE: 1998-12-04
NUMBER OF SEQ ID NOS: 105
SOFTWARE: FEALESEQ for Windows Version 3.0
SEQ ID NO 85
LENGTH: 199
TYPE: PRT
ORGANISM: Aspergillus nidulans
US-09-232-200-85
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Sequence 4612, Application US/09107532A
Patent No. 6583275
GENERAL INFORMATION:
APPLICANT: Lynn A Doucette-Stamm and David Bush
APPLICANT: Lynn A Doucette-Stamm and David Bush
TITLE OF INVENTION: WUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO
BNTEROCOCCUS FAECIUM FOR DIAGNOSTICS AND THERAPEUTICS
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95.0%; Score 19; DB 4; Length 199;
Best Local Similarity 100.0%; Pred. No. 7.8e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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CORRESPONDENCE ADDRESS:
ADDRESSEE: GENOME THERAPEUTICS CORPORATION
STREET: 10 Beaver Street
CITY: Waltham
STATE: Massachusetts
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 85. Application US/09232195A
Patent No. 6657049
GENERAL INFORMATION:
APPLICANT: Stanl, Andreas
APPLICANT: Gimeno, Buth B.
APPLICANT: Gimeno, Ruth B.
APPLICANT: Tartaglia, Louis A.
TITLE OF INVENTION: FATTY ACID TRANSPORT PROTEINS
FILE REPERENCE: WH197-2193MD
CURRENT PAPLICATION NUMBER: US/09/232,195A
CURRENT FILING DATE: 1999-01-04
EARLIER APPLICATION NUMBER: 60/071,374
EARLIER APPLICATION NUMBER: 60/071,374
EARLIER FILING DATE: 1998-01-15
EARLIER FILING DATE: 1998-01-05
EARLIER FILING DATE: 1998-12-04
NUMBER: OF SEQ ID NOS: 105
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO SEQ ID NOS: 109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 19; DB 4; L
Pred. No. 7.8e+02;
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100.0%; Pred. No. ...
0; Mismatches
EARLIER APPLICATION NUMBER: 60/093,491
EARLIER FILING DATE: 1998-07-20
EARLIER APPLICATION NUMBER: 60/110,941
EARLIER FILING DATE: 1998-12-04
NUMBER OF SEQ ID NOS: 105
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 85
LENGTH: 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT ORGANISM: Aspergillus nidulans S-09-232-195-85
                                                                                                                                                                                         TYPE: PRT
ORGANISM: Aspergillus nidulans
3-09-232-201-85
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Best Local Similarity 100.
Matches 4; Conservative
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3-09-232-195-85
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Gaps
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| Sequence 1, Application US/08684024
| Patent NO. 5834288
| Patent NO. 5834288
| CENERAL INFORMATION:
| APPLICANT: Benezza, Robert
| TITLE OF INVENTION: GENE ENCODING THE HUMAN HOMOLOG OF MAD2
| TOTALE OF SEQUENCES: 9
| CORRESPONDENCE ADDRESS:
| ADDRESSEE: Cooper & Dunham LLP
| STREET: 1185 Avenue of the Americas
| CITY: New York
| CONDITY: U.S.A. | COOPER & DUNHAM LLP
| CONDITY: U.S.A. | COOPER & COOPER & DUNHAM LLP
| CONDITY: U.S.A. | US ON THE OFFICE & DUNHAM LLP
| CONDITY: U.S.A. | US ON THE OFFICE & DUNHAM LLP
| CONDITY: U.S.A. | US ON THE OFFICE & DUNHAM LLP
| CONDITY: U.S.A. | US ON THE OFFICE & DUNHAM LLP
| CONDITY: U.S.A. | US ON THE OFFICE & DUNHAM LLP
| CONDITY: U.S.A. | US ON THE OFFICE & DUNHAM LLP
| CONDITY: U.S.A. | US ON THE OFFICE & DUNHAM LLP
| CONDITY: U.S.A. | US ON THE OFFICE & DUNHAM LLP
| CONDITY: U.S.A. | US ON THE OFFICE & US ON THE 
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                                                      CURRENT SYSTEM: cUnknown>
COMPUTER: PC
SOFTWARE: ASCII

CURRENT APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: 60/055,598
FILING DATE: 14 May 1998
APPLICATION NUMBER: 60/051571
FILING DATE: 14 May 1998
APPLICATION NUMBER: 60/051571
FILING DATE: JALLY 2, 1997
ATTORNEY/AGENT INFORMATION:
NAME: Arinfallo, Pamela Deneke
REGISTRATION NUMBER: 40,489
REFERENCE/DOCKET NUMBER: GTC-012
TELECOMMUNICATION INFORMATION:
TELEPHONE: (781)893-5007
INFORMATION FOR SEQ ID NO: 4612:
SEQUENCE CHARACTERISTICS:
INFORMATION FOR SEQ ID NO: 4612:
SEQUENCE CHARACTERISTICS:
INFORMATION GOID
TYPE: amino acid
TYPE: amino acid
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
95.0%; Score 19; DB 4; Lv
Best Local Similarity 100.0%; Pred. No. 7.9e+02;
Matches 4; Conservative 0; Mismatches 0;
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LOCATION: (B) LOCATION 1...203
SEQUENCE DESCRIPTION: SEQ ID NO: 4612:
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NAME: White, John P.
REGISTRATION NUMBER: 28,678
REFERENCE/DOCKET NUMBER: 1747/46621-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORIGINAL SOURCE: ORIGINAL SOURCE: ORGANISM: Enterococcus faecium
ZIP: 02354
COMPUTER READABLE FORM:
MEDIUM TYPE: CD/ROM ISO9660
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MOLECULE TYPE: protein
HYPOTHETICAL: YES
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US-08-684-024-1
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 278-0400
TELEPAX: (212) 391-0526
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 205 amino acids
TYPE: amino acid
TYPE: ACID TYPE: protein
15-08-684-024-1
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0; Gaps Query Match 95.0%; Score 19; DB 2; Length 205; Best Local Similarity 100.0%; Pred. No. 8e+02; Matches 4; Conservative 0; Mismatches 0; Indels

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2 VAEF 5 |||| 20 VAEF 23

≿ ă search completed: May 24, 2004, 17:43:20
Job time : 24 secs

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Sequence 343, App Sequence 206, App Sequence 206, App Sequence 145, App Sequence 197, App Sequence 379, App Sequence 77, App Sequence 62, App Sequence 63, App Sequence 62, App Sequence 62, App Sequence 62, App Sequence 62, App Sequence 63, App Sequence 62, App Sequence 62, App Sequence 63, App Sequence 62, App Sequence 62, App Sequence 126297,
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                                                                                              May 24, 2004, 17:34:23 ; Search time 39.6429 Seconds (without alignments) 35.179 Million cell updates/sec
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Sequence Sequence Sequence Sequence	Sequence 1 Sequence	Sequence	Sequence 70662, A Sequence 72399, A	Sequence 68, Appl	Sequence 283488, Sequence 39, Appl	Sequence 56234, A	Sequence 47756, A	Sequence 44, Appl Sequence 257488,	Sequence 44, Appl	Sequence 72187, A Sequence 158126	Sequence 271081,	Sequence 129, App	Sequence 13003, A Sequence 311, App	Sequence 1244, Ap	Sequence 44055, A Sequence 9, Appli	Sequence 9, Appli	Sequence 9204, Ap	Sequence 606, App	Sequence 13537, A	Sequence 158554, Sequence 189853,	Sequence 150, App	Sequence 40, Appl	Sequence 10, Apr.	Sequence 312, App Sequence 1247, Ap	Sequence 6642, Ap Sequence 5221, Ap	Sequence 16, Appl	Sequence 11889, A Sequence 66426, A	Sequence 248969, Sequence 303, App	Sequence 4656, A	Sequence 19, Appi Sequence 69377, A	Sequence 10, Appl Sequence 12238, A	Sequence 10, Appl	Sequence 254101, Sequence 88, Appl	Seguence 2, Appli	Sequence 1, Appli	Sequence 52414, A Sequence 41437, A	Sequence 62005, A	Sequence 252581, Sequence 78178, A	Sequence 45104, A	Sequence 315, App	Sequence 164, App
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10 US-109-252-088-40 Sequence 12 US-10-340-792-40 Sequence 12 US-10-425-114-45098 Sequence 12 US-10-425-114-63330 Sequence 12 US-10-425-114-63340 Sequence	12 US-10-412-699B-1410 Sequence	15 US-10-421-138A-308 Sequence	12 US-10-282-122A-70562 Sequence 70662, A 12 US-10-282-122A-70399 Sequence 72399, A	14 US-10-137-036-68 Sequence 68, Appl	12 US-10-424-599-283468 Sequence 283468, 14 US-10-338-777-39 Sequence 39, Appl	12 US-10-282-122A-56234 Sequence 56234, A	12 US-10-425-114-47756 Sequence 47756, A	10 US-09-870-406A-44 Sequence 44, Appl 12 US-10-424-599-257488 Sequence 257488.	14 US-10-159-901-44 Sequence 44, Appl	12 US-10-282-122A-72187 Sequence 72187, A	12 US-10-424-559-271081 Sequence 271081,	9 US-09-771-161A-129 Sequence 129, App	14 US-IU-IS6-/61-13663 Sequence 13663, A 15 US-10-421-138A-311 Sequence 311, App	15 US-10-374-780A-1244 Sequence 1244, Ap	12 US-10-425-114-44065 Sequence 44065, A 9 US-09-832-312-9 Sequence 9, Appli	11 US-09-829-495-9 Sequence 9, Appli	14 US-10-156-781-9204 Sequence 9204, Ap 15 US-10-409-701-15 Sequence 15, Appl	15 US-10-310-154-606 Sequence 606, App	15 US-10-369-493-2337 Sequence 23537, A	12 US-10-424-599-158554 Sequence 158554, 12 US-10-424-599-189853 Sequence 189853,	12 US-10-262-511-150 Sequence 150, App	13 US-10-086-623-40 Sequence 40, Appl	15 US-10-260-255-40 Sequence 19054, A	15 US-10-421-138A-312 Sequence 312, App 15 US-10-374-780A-1247 Sequence 1247, Ap	9 US-09-738-626-6642 Sequence 6642, Ap 14 US-10-106-698-5221 Sequence 5221, Ap	15 US-10-139-794-16 Sequence 16, Appl	9 US-09-815-242-11889 Sequence 11889, A 12 US-10-282-122A-66426 Sequence 66426, A	12 US-10-424-599-248969 Sequence 248969,	12 US-10-425-114-46566 Sequence 46566, A	10 US-09-893-519A-19 Sequence 19, App. 12 US-10-282-122A-69377 Sequence 69377, A	14 US-10-011-364-10 Sequence 10, Appl 15 US-10-369-12238 Sequence 12238, A	15 US-10-321-962-10 Sequence 10, Appl	12 US-10-424-599-254101 Sequence 254101, 9 US-09-800-729-88 Sequence 88, Appl	10 US-09-746-783-2 Sequence 2, Appli	11 US-09-833-245-2213 Sequence 2213, Apr 14 US-10-182-447-1 Sequence 1, Appli	12 US-10-282-122A-52414 Sequence 52414, A	12 US-10-425-114-62005 Sequence 62005, A	12 US-10-424-599-252581 Sequence 252581,	12 US-10-425-114-45104 Sequence 45104, A	12 US-10-425-114-65/38 Sequence 90/30, A 15 US-10-421-138A-315 Sequence 315, App	9 US-09-745-763-164 Sequence 164, App
US-103-252-088-40 Sequence US-10-340-792-40 Sequence US-10-425-114-45098 Sequence US-10-425-114-43330 Sequence	12 US-10-412-699B-1410 Sequence	15 US-10-421-138A-308 Sequence	12 US-10-282-122A-70562 Sequence 70662, A 12 US-10-282-122A-70399 Sequence 72399, A	14 US-10-137-036-68 Sequence 68, Appl	12 US-10-424-599-283468 Sequence 283468, 14 US-10-338-777-39 Sequence 39, Appl	12 US-10-282-122A-56234 Sequence 56234, A	12 US-10-425-114-47756 Sequence 47756, A	10 US-09-870-406A-44 Sequence 44, Appl 12 US-10-424-599-257488 Sequence 257488.	14 US-10-159-901-44 Sequence 44, Appl	12 US-10-282-122A-72187 Sequence 72187, A	12 US-10-424-559-271081 Sequence 271081,	9 US-09-771-161A-129 Sequence 129, App	14 US-IU-IS6-/61-13663 Sequence 13663, A 15 US-10-421-138A-311 Sequence 311, App	15 US-10-374-780A-1244 Sequence 1244, Ap	12 US-10-425-114-44065 Sequence 44065, A 9 US-09-832-312-9 Sequence 9, Appli	11 US-09-829-495-9 Sequence 9, Appli	14 US-10-156-781-9204 Sequence 9204, Ap 15 US-10-409-701-15 Sequence 15, Appl	15 US-10-310-154-606 Sequence 606, App	15 US-10-369-493-2337 Sequence 23537, A	12 US-10-424-599-158554 Sequence 158554, 12 US-10-424-599-189853 Sequence 189853,	12 US-10-262-511-150 Sequence 150, App	13 US-10-086-623-40 Sequence 40, Appl	15 US-10-260-255-40 Sequence 19054, A	15 US-10-421-138A-312 Sequence 312, App 15 US-10-374-780A-1247 Sequence 1247, Ap	9 US-09-738-626-6642 Sequence 6642, Ap 14 US-10-106-698-5221 Sequence 5221, Ap	15 US-10-139-794-16 Sequence 16, Appl	9 US-09-815-242-11889 Sequence 11889, A 12 US-10-282-122A-66426 Sequence 66426, A	12 US-10-424-599-248969 Sequence 248969,	12 US-10-425-114-46566 Sequence 46566, A	10 US-09-893-519A-19 Sequence 19, App. 12 US-10-282-122A-69377 Sequence 69377, A	14 US-10-011-364-10 Sequence 10, Appl 15 US-10-369-12238 Sequence 12238, A	15 US-10-321-962-10 Sequence 10, Appl	12 US-10-424-599-254101 Sequence 254101, 9 US-09-800-729-88 Sequence 88, Appl	10 US-09-746-783-2 Sequence 2, Appli	11 US-09-833-245-2213 Sequence 2213, Apr 14 US-10-182-447-1 Sequence 1, Appli	12 US-10-282-122A-52414 Sequence 52414, A	12 US-10-425-114-62005 Sequence 62005, A	12 US-10-424-599-252581 Sequence 252581,	12 US-10-425-114-45104 Sequence 45104, A	12 US-10-425-114-65/38 Sequence 90/30, A 15 US-10-421-138A-315 Sequence 315, App	9 US-09-745-763-164 Sequence 164, App
10 US-109-252-088-40 Sequence 12 US-10-340-792-40 Sequence 12 US-10-425-114-45098 Sequence 12 US-10-425-114-63330 Sequence 12 US-10-425-114-63340 Sequence	236 12 US-10-412-699B-1410 Sequence	236 15 US-10-421-138A-308 Sequence	230 12 US-10-282-122A-70262 Sequence 70662, A 238 12 US-10-282-122A-7239 Sequence 72399, A	238 14 US-10-137-036-68 Sequence 68, Appl	239 12 US-10-424-599-283468 Sequence 283468, 240 14 US-10-338-777-39 Sequence 39, Appl	241 12 US-10-282-122A-56234 Sequence 56234, A	241 12 US-10-425-114-47756 Sequence 47756, A	243 10 US-09-870-406A-44 Sequence 44, Appl 243 12 US-10-424-599-257488 Sequence 257488,	243 14 US-10-159-901-44 Sequence 44, Appl	244 12 US-10-282-122A-72187 Sequence 72187, A 244 12 US-10-424-599-158126 Sequence 158126.	244 12 US-10-424-599-271081 Sequence 271081,	246 9 US-09-771-161A-129 Sequence 129, App	246 14 US-10-156-761-13663 Sequence 13663, A 246 15 US-10-421-138A-311 Sequence 311, App	246 15 US-10-374-780A-1244 Sequence 1244, Ap	248 12 US-10-425-114-44065 Sequence 44065, A	249 11 US-09-829-495-9 Sequence 9, Appli	249 14 US-10-156-761-9204 Sequence 9204, Ap 249 15 US-10-409-701-15 Sequence 15, Appl	249 15 US-10-310-154-606 Sequence 606, App	253 15 US-10-369-492-23537 Sequence 23537, A	254 12 US-10-424-599-158554 Sequence 158554, 254 12 US-10-424-599-189853 Sequence 189853,	254 12 US-10-262-511-150 Sequence 150, App 254 15 His-10-369-491-11429 Sequence 11429, A	255 13 US-10-086-623-40 Sequence 40, Appl	255 15 US-10-280-353-40 Sequence 19054, A	256 15 US-10-421-138A-312 Sequence 3.4, App. 356 15 US-10-374-780A-1247 Sequence 1247, Ap	) 257 9 US-09-738-626-6642 Sequence 6642, Ap ) 257 14 US-10-106-698-5221 Sequence 5221, Ap	257 15 US-10-139-794-16 Sequence 16, Appl	) 258 9 US-09-815-242-11889 Sequence 11869, A ) 258 12 US-10-282-122A-66426 Sequence 66426, A	) 258 12 US-10-424-599-248969 Sequence 248969,	250 12 US-10-425-114-4656 Sequence 4656, A	) 261 10 US-09-893-519A-19 sequence 19, Appl ) 261 12 US-10-282-122A-69377 Sequence 69377, A	561 14 US-10-011-364-10 Sequence 10, Appl 561 15 US-10-369-493-12238 Sequence 12238, A	261 15 US-10-321-962-10 Sequence 10, Appl	) 262 12 US-10-424-599-254101 Sequence 254101, ) 263 9 US-09-800-729-88 Sequence 88, Appl	263 10 US-09-746-783-2 Sequence 2, Appli	263 11 US-09-833-745-7213 Sequence 7213, Ap 3 264 14 US-10-182-447-1 Sequence 1, Appli	) 265 12 US-10-282-122A-52414 Sequence 52414, A	265 12 US-10-425-114-62005 Sequence 62005, A	0 266 12 US-10-424-599-252581 Sequence 252581, 0 267 12 US-10-282-122A-78178 Sequence 78178, A	267 12 US-10-425-114-45104 Sequence 45104, A	0 267 12 US-10-425-114-68/38 Sequence 00/30, A 0 267 15 US-10-421-138A-315 Sequence 315, App	268 9 US-09-745-763-164 Sequence 164, App

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15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0   15.0	240244 440244 4402044 1120942 140932	-2257 -493 -493 -493	-493-	-493-	-193- -192- 903-4	-9477	-114-	-779	-567-	-887-	-1227	-2257	1-599-	-122 <i>p</i> -493-	493-	-493-	-1227	-226-	761-	-2111	626-5	-816-1	L-816.	300-	2-1227	1298	2-806
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APPLICANT: Tyson, Kerry Louise
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Best Local Similarity 100.
Matches 4; Conservative
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; ORGANISM: homo sapien
US-09-791-389-206
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CORGANISM: homo sapien
US-09-791-393-206
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Best Local Similarity
Matches 4; Conserv
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US-09-791-389-206
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Patent No. US20020142303A1
GENERAL INFORMATION:
APPLICANT: Pareth, Rajesh
TITLE OF INVENTION: SCHIZOPHRENIA
FILE OF INVENTION: SCHIZOPHRENIA
FILE REFERENCE: 9195-061-999
CURRENT FILING DATE: 2001-02-23
FRICR APPLICATION NUMBER: 09/750,395
FRICR APPLICATION NUMBER: 09/750,395
FRICR FILING DATE: 2000-12-28
NUMBER OF SEQ ID NOS: 677
SSEQ ID NO 343
LENGTH: 8
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                                                             Sequence
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    2 US-10-282-122A-75373

2 US-110-282-122A-75352

2 US-110-389-122A-75521

6 US-10-389-566-1969

6 US-10-389-566-1969

4 US-10-389-566-1969

4 US-10-100-957A-142

4 US-10-100-957A-142

4 US-10-215-114-46750

2 US-10-221-114-40721

2 US-10-280-122A-689-671

2 US-10-425-114-4224

2 US-10-425-114-4224

2 US-10-425-11305

2 US-10-425-11305

2 US-10-425-11305

2 US-10-424-11305

2 US-10-280-122A-58657

2 US-10-424-599-198064

2 US-10-424-599-198064
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ORGANISM: Homo sapiens
JS-09-791-378-343
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JS-09-791-378-343
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Gaps ; 0 ö

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RESULT 2 JS-09-791-393-206

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Bienkowski, Mike J.
Heinrikson, Robert L.
VENTION: SUBSTRATES AND ASSAYS FOR BETA-SBCRETASE ACTIVITY
                                                                     TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR ELICITING CTL IMMUNITY
                                                                                                                                    CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend Khourie and Crew STREET: Steuart Street Tower, One Market Plaza CITY: San Francisco
STATE: California
COUNTRY: US
ZIP: 94105-1493
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IsPM PC compatible
COMPUTER: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION NUMBER: US/10/128,711
FILING DATE: 22-Apr-2002
CLASSIFICATION: <UNKNOWN->
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
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Pred. No. 1e+06;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION DATA:

APPLICATION NUMBER: US/08/197,484

FILING DATE: 16-FEB-1994

APPLICATION NUMBER: US 07/935,811

FILING DATE: 26-AUG-1992

APPLICATION NUMBER: US 07/874,491

FILING DATE: 27-APR-1992

APPLICATION NUMBER: US 07/827,682

FILING DATE: 29-APN-1992

APPLICATION NUMBER: US 07/749,568

FILING DATE: 26-AUG-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: Parmelee, Steven W.
REGISTRATION NUMBER: 31,990
REPERBACE/DOCKET NUMBER: 14137-26-4
TELECOMMUNICATION INFORMATION:
TELEPHONE: (206) 647-9600
TELEPAX: (206) 623-6793
INFORMATION FOR SEQ ID NO: 145:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
STRANDEDNESS: unknown
TOPOLOGY: unknown
MOLECULE TYPE: peptide
SEQUENCE DESCRIPTION: SEQ ID NO: 145:
US-10-128-711-145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 6
US-09-508-943A-197
US-09-01-ence 197, Application US/09908943A
; Publication No. US20030017991A1
SETTE, Alessandro D.
CELIS, Esteban
GRAY, Howard
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APPLICANT: Yan, Riqiang
APPLICANT: Tomasselli, Alfredo G.
APPLICANT: Gurney, Mark E.
APPLICANT: Emmons, Thomas L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
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                                                                                                                       SEQUENCES: 153
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Best Local Similarity 100.
                                                                                                                       NUMBER OF
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                                          Squence 86, Application US/10128711
Publication No. US2030099634A1
GENERAL INFORMATIO, Maria A.
GENERAL INFORMATIO, Robert W.
SETTE, Alessandro D.
CELIS, Reteban
GRAY, Howard
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR ELICITING
CORRESPONDENCES: 153
CORRESPONDENCE ADDRESSE: Townsend and Townsend Khourie and Crew
STREET: Steuart Street Tower, One Market Plaza
CITY: San Francisco
STATE: California
COUWTRY: US
ZIP: 94105-1493
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER IBM FC COMPATION SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/10/128,711
FILING DATE: 22-Apr-2002
CLASSIFICATION: «Unknown»
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/197,484
FILING DATE: 16-FEB-1994
APPLICATION NUMBER: US 07/935,811
FILING DATE: 26-AUG-1992
APPLICATION NUMBER: US 07/874,491
FILING DATE: 27-APR-1992
APPLICATION NUMBER: US 07/874,691
FILING DATE: 29-AAN-1992
APPLICATION NUMBER: US 07/877,682
APPLICATION NUMBER: US 07/877,682
APPLICATION NUMBER: US 07/877,682
APPLICATION NUMBER: US 07/877,682
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REGISTRATION NÜMBER: 31,990
REFERENCE/DOCKET NÜMBER: 14137-26-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY: unknown
MOLECULE TYPE: peptide
SEQUENCE DESCRIPTION: SEQ ID NO: 86:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEPHONE: (206) 467-9600
TELEFAX: (206) 623-6793
INFORMATION FOR SEQ ID NO: 86:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 145, Application US/10128711 Publication No. US20030099634A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME: Parmelee, Steven W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELECOMMUNICATION INFORMATION TELEPHONE: (206) 467-960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: VITIELLO, Maria A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      35.00.
100.08; Pr.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRANDEDNESS: unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4; Conservative
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Best Local Similarity
Matches 4; Conserv
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                                  -10-128-711-86
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Gaps

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APPLICANT: KLINGTER - HAMOUR, Christine
APPLICANT: KLINGTER - HAMOUR, Christine
APPLICANT: CORYALA, Nathalie
APPLICANT: CORYALA, Nathalie
APPLICANT: GOETSCH, Liliane
TITLE OF INVENTION: MCLECULE OF PHARMACEUTICAL INTEREST COMPRISING AT ITS
TITLE OF INVENTION: OF A PHYSICLOGICALLY ACCEPTABLE STRONG ACID
TITLE OF INVENTION: OF A PHYSICLOGICALLY ACCEPTABLE STRONG ACID
TITLE OF INVENTION: OF A PHYSICLOGICALLY ACCEPTABLE STRONG ACID
TITLE OF INVENTION: OF A PHYSICLOGICALLY ACCEPTABLE STRONG ACID
FILE REFERENCE: 343 727 - US
CURRENT APPLICATION NUMBER: US/10/239,313A
CURRENT FILING DATE: 2000-03-23
PRIOR APPLICATION NUMBER: PCT 01/70772
PRIOR PLING DATE: 2001-03-22
NUMBER OF SEQ ID NOS: 697
SOFTWARE: PATENTIN VEY: 2.1
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Publication No. US20030175722A1
GENERAL INPORMATION:
APPLICANT: Mann, M.
APPLICANT: Mann, M.
APPLICANT: Mortensen, P.
TITLE OF INVENTION: METHODS AND SYSTEMS FOR SEARCHING GENOMIC DATABASES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
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                                  APPLICANT: Ghosh, Arun K.

ITILE OF INVENTION: Inhibitors of Memapsin 2 and Use Thereof
FILE REPERED: 2932.1006-007
CURRENT APPLICATION UNYBER: US/10/032,818
CURRENT FILING DATE: 2001-12-28
FRICK APPLICATION NUMBER: US 60/275,756
FRICK APPLICATION NUMBER: US 60/258,705
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 12;
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Pred. No. 1.7e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Indels
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100.0%; Pred. No. 1.6e+02;
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100.0%; Pred. No. ...
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ) OTHER INFORMATION: Synthetic peptide US-10-032-818-34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Application US/10239313A
o. US20030175285A1
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; ORGANISM: Mycobacterium leprae
US-10-239-313A-379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 100...
       Gerald
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Best Local Similarity 100.
Matches 4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2 VAEF 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-239-313A-379
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LOCATION: (10)...(10)
CTHER INFORMATION: amino acid at position 10 has been derivatized with Bodipy FL
JS-09-908-943A-197
                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: SITE LOCATION: (4)...(4) OTHER INDEXTION: (4)...(4) OTHER INDEXTION: amino acid at position 4 has been derivatized with a statine NAME/KEY: SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
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APPLICANT: Tomasselli, Alfredo G.
APPLICANT: Tomasselli, Alfredo G.
APPLICANT: Emmons, Thomas L.
APPLICANT: Benkowski, Mike J.
APPLICANT: Heinrikson, Robert L.
TITLE OF INVENTION: SUBSTRATES AND ASSAYS FOR BETA-SECRETASE ACTIVITY
FILE REPERENCE: 29915/00281A.081
CURRENT APPLICATION NUMBER: US/09/908,943A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
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95.0%; Score 19; DB 12; Length 10
Best Local Similarity 100.0%; Pred. No. 1.3e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
CURRENT APPLICATION NUMBER: US/09/908,943A
CURRENT FILING DATE: 2001-07-19
PRIOR APPLICATION NUMBER: 60/219,795
PRIOR FILING DATE: 2000-07-19
NUMBER OF SEQ ID NOS: 197
SOFTWARE: PATENTIN Ver. 2.0
ENGINAN: 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              i-09-908-943A-196
Sequence 196, Application US/09908943A
Publication No. US20030017991A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                             ORGANISM: synthetic peptide sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION NUMBER: 60/219,795
PRIOR FILIND BATE: 2000-07-19
NUMBER OF SEQ ID NOS: 197
SOFTWARE: Patentin Ver. 2.0
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Publication No. US20030092629A1
GENERAL INFORMATION:
APPLICANT: Tang, Jordan J.N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Artificial sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 100...
Lag 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VAEF 5
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LENGTH: 12
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Length 20;

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Query Match
Best Local Similarity 100.v
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                                                                                                                                    13 VAEF 16
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ANTI-SENSE: NO
FRAGMENT TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2 VAEF 5
                                                                                                2 VAEF 5
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Sequence 62, Application US/09171432A
Publication No. US20030187184A1
GENERAL INFORMATION:
APPLICANT: Fields, Howard A.
APPLICANT: Khudyakov, Yury E.
TITLE OF INVENTION: Antigenically Reactive Regions of the
TITLE OF INVENTION: Hepatitis A Virus Polyprotein
NUMBER OF SEQUENCES: 88
CORRESPONDENCE ADDRESS:
ADDRESSEE: Kilpatrick Stockton LLP
STREET: 3424 Peachtree Road, N.E.
CITY: Atlanta
STATE: Georgia
COMPUTER: IBAP Compatible
COMPUTER: BAD PEACHTEE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: PLAD PEACHTER PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/171,432A
FILING DATE: 23-NOV-1998
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
REGISTRATION NUMBER: 32,467
REFERENCE/DOCKET NUMBER: 32,467
TELECOMMUNICATION SEQUENCE CHARACTERISTICS:
LENGTH: 20 amino acide
TYPE: amino acide
TYPE: amino acide
                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                   95.0%; Score 19; DB 14; Length 15; 100.0%; Pred. No. 2e+02; tive 0; Mismatches 0; Indels
                FILE REPERENCE: MDSP-P01-004
CURRENT APPLICATION NUMBER: US/10/119,528
CURRENT FILING DATE: 2002-04-09
PRIOR APPLICATION NUMBER: 60/282,551
PRIOR PILING DATE: 2001-04-09
PRIOR APPLICATION NUMBER: 60/285,362
PRIOR FILING DATE: 2001-04-20
NUMBER OF SEQ ID NOS: 112
SSOTHWARE: PATENTIN VERSION 3.1
LENGTH: 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: Peptide
LOCATION: 1..20
OTHER INPRMATION: /label= YK-1368
IS-09-171-432a-162
                                                                                                                                                                                                                                           TYPE: PRT
ORGANISM: Arabidopsis thaliana
S-10-119-528-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                    ANTI-SENSE: NO FRAGMENT TYPE: internal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: amino acid
STRANDEDNESS: single
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US-00-171-432A-63
Sequence 63, Application US/09171432A
Publication No. US2003187184A1
GENERAL INFORMATION:
APPLICANT: Fields, Howard A.
APPLICANT: Khudyakov, Yury E.
TITLE OF INVENTION: Antigenically Reactive Regions of the TITLE OF INVENTION: Hepatitis A Virus Polyprotein
NUMBER OF EXQUENCES: 88
CORRESPONDENCE ADDRESS:
ADDRESSEE: ALipatrick Stockton LLP
STREET: 3424 Peachtree Road, N.E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                95.0%; Score 19; DB 10; Length 20; 100.0%; Pred. No. 2.6e+02; ive 0; Mismatches 0; Indels
                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CITY: 13424 Feachtiee Road, N.E.
CITY: 3424 Feachtiee Road, N.E.
COUNTRY: USA
ZOUNTRY: USA
ZOUNTRY: USA
ZOUNTRY: USA
ZOUNTRY: USA
ZOUNTRY: BADDEB FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
CURRENT BAPELICATION DATA:
APPLICATION NUMBER: US/09/171,432A
FILING DATE: 23-NOV-1998
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
REFERENCE/DOCKET NUMBER: 03063-0231US
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEFERX: (404) 949-2499
INFORMATION FOR SEQ ID NO: 63:
SEQUENCE: CHRARACTERISTICS:
LENGTH: 20 mmino acids
TWANTER: 20 mmino acids
95.0%; Score 19; DB 10; 100.0%; Pred. No. 2.6e+02; iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LOCATION: 1.20
CTHER INFORMATION: /label= YK-1369
US-09-171-432A-63
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ouery Match
Best Local Similarity 100.
Matches 4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE: peptide HYPOTHETICAL: NO
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and Other Molecules Associated With
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COTHER INFORMATION: MAP TO AC005772.1
COTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 0.46
COTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 0.67
COTHER INFORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 0.61
US-09-864-761-47201
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Pred. No. 3.7e+02;
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                                                               PRIOR PILICATION NUMBER: US 60/236,559
PRIOR PILICATION NUMBER: US 60/236,559
PRIOR PILICATION NUMBER: PCT/USO1/0066
PRIOR PILING DATE: 2001-01-30
PRIOR PILING DATE: 2001-01-30
PRIOR PILING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: PCT/USO1/00664
PRIOR APPLICATION NUMBER: PCT/USO1/00669
PRIOR PILING DATE: 2001-01-30
PRIOR PILING DATE: 2001-01-30
PRIOR PILING DATE: 2001-01-30
PRIOR PILING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: PCT/USO1/00668
PRIOR APPLICATION NUMBER: PCT/USO1/00668
PRIOR APPLICATION NUMBER: PCT/USO1/00669
PRIOR PILING DATE: 2001-01-30
PRIOR PILING DATE: 2001-01-29
NUMBER: OF SEQ ID NOS: 49117
PRIOR PILING DATE: 2001-01-29
NUMBER: OF SEQ ID NOS: 49117
PRIOR PILING DATE: 2001-01-29
NUMBER: OF SEQ ID NOS: 491721
PRIOR PILING DATE: 2001-01-29
NUMBER: OF SEQ ID NOS: 491721
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US-10-424-599-216297
US-10-424-599-216297
Sequence 216297, Application US/10424599
Sequence 216297, Application US/10424599
Sequence 216297, Application US/10424599
Sequence 216297, Sequence 2162040031072A1
GENERAL INFORMATION:
APPLICANT: About Kovalic David K
APPLICANT: About Yihua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and
TITLE OF INVENTION: Plants and Uses Thereof for P
TILE OF INVENTION: Plants and Uses Thereof for P
TITLE OF INVENTION: Plants and Uses Thereof for P
CURRENT FILING DATE: 2003-04-28
SEQ ID NO 216297
LENGTH: 28
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                                                     US 60/236,359
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Best Local Similarity 100.
Matches 4; Conservative
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ORGANISM: Homo sapiens
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Patent No. US20020048763A1

GENERAL INFORMATION:

APPLICANT: Penn, Sharron G.

APPLICANT: Penn, Sharron G.

APPLICANT: Hanzel, David R.

APPLICANT: Chen, Wensheag

ITILE OF INVENTION: HUMBER: US 809/864,761

CURRENT APPLICATION HUMBER: US 80/180,312

PRIOR APPLICATION NUMBER: US 60/180,312

PRIOR APPLICATION NUMBER: US 60/207,456

PRIOR APPLICATION NUMBER: US 60/207,456

PRIOR PILING DATE: 2000-05-26

PRIOR PLING DATE: 2000-05-36

PRIOR PLING DATE: 2000-06-39

PRIOR PLING DATE: 2000-08-30

PRIOR APPLICATION NUMBER: GB 24263.6
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APPLICANT: Khudyakov, Yury E.

TILLE OF INVENTION: Antigenically Reactive Regions of the TITLE OF INVENTION: Antigenically Reactive Regions of TITLE OF INVENTION: Antigenically Reactive Regions of WINDER OF SEQUENCES: 88

CORRESPONDENCE ADDRESS:
ADDRESSEE: Kilpatrick Stockton LLP STREET: 4144 Peachtree Road, N.E.
CITY: Atlanta
STATE: Georgia
COMPUTRY: USA
ZIP: 30326
COMPUTRY: EADABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTRY: BATCOMPATA: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/171,432A
FILING DATE: 23-NOV-1998
CLASSIFICATION:
NAME: Green, Jamie L.
REGISTRATION STORMER: 32,467
REFERRNCE/DOCKET NUMBER: 32,467
RELEPHONE: (404) 949-2499
INFORMATION POR SEQ ID NO: 65:
SEQUENCE CHARACTRECTICS:
LENGTH: 25 amino acids
TYPE: amino acids
TYPE: Amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 25;
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100.0%; Pred. No. 3.3e+02;
tive 0; Mismatches 0;
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LOCATION: 1..25
CTHER INFORMATION: /label= YK-1832
JS-09-171-432A-65
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Best Local Similarity 100.
Matches 4; Conservative
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ANTI-SENSE: NO
FRAGMENT TYPE: internal
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STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
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Query Match
Best Local Similarity 100.
Matches 4; Conservative
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                                                                                                                                          ; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-242-355-570
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APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins, and Antibodies
FILE REFERENCE: PCO03CI
CURRENT APPLICATION NUMBER: US/10/242,355
CURRENT FILING DATE: 2002-09-13
PRIOR APPLICATION NUMBER: 09/764,897
PRIOR FILING DATE: 2001-01-17
PRIOR APPLICATION NUMBER: 60/19,065
PRIOR APPLICATION NUMBER: 60/190,628
PRIOR FILING DATE: 2000-01-31
PRIOR APPLICATION NUMBER: 60/214,886
PRIOR APPLICATION NUMBER: 60/214,886
PRIOR PELING DATE: 2000-06-28
PRIOR PELING DATE: 2000-06-28
PRIOR APPLICATION NUMBER: 60/215,758
PRIOR APPLICATION NUMBER: 60/225,758
PRIOR APPLICATION NUMBER: 60/225,758
PRIOR PELING DATE: 2000-07-11
PRIOR PELING DATE: 2000-07-26
PRIOR PELING DATE: 2000-07-26
PRIOR PELING DATE: 2000-07-26
PRIOR PELING DATE: 2000-07-17
PRIOR PELING DATE: 2000-07-17
PRIOR PELING DATE: 2000-07-11
PRIOR PELING DATE: 2000-07-11
95.0%; Score 19; DB 12; Length 28; 100.0%; Pred. No. 3.7e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        95.0%; Score 19; DB 14; Length 35; 100.0%; Pred. No. 4.7e+02; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                    APPLICANT: LOCEMOTE, Sheena M. APPLICANT: LOCEMOTE, Sheena M. APPLICANT: Arkness, Robin E. APPLICANT: Schryvers, Anthony B. APPLICANT: Chong, Pele APPLICANT: Chay, Pele APPLICANT: Gray-Owen, Scott APPLICANT: Murdin, Andrew D. APPLICANT: Michel H. TITLE OF INVENTION: TRANSFERRIN RECEPTOR GENES FILE REFERENCE: 1038-1221 MIS. CURRENT APPLICATION NUMBER: US/10/043,344 CURRENT APPLICATION NUMBER: 08/649,518 PRIOR APPLICATION NUMBER: 08/649,518 PRIOR FILLING DATE: 1956-05-17 NUMBER OF SEQ ID NOS: 160 SOFTWARE: Batentin Ver. 2.1 SEQ ID NO 69 LENGTH: 35 TYPE: PRT ORGANISM: Haemophilus influenzae: 10-043-344-69
                   100.0%; Pred. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 570, Application US/10242355 Publication No. US20030235831A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                    Sequence 69, Application US/10043344
Publication No. US20030088086A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100.
                   Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                       10 VAEF 13
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Query Match
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PRICE APPLICATION NUMBER: 66/118,290

PRICE FILTED DATE: 2000 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-14:00 00-1
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APPLICANT: Zhou Yihua APPLICANT: Zhou Yihua APPLICANT: Zhou Yihua APPLICANT: Cao Yongwei TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement FILE REFERENCE: 38-21(53223)B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ô
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OTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 0.86

OTHER INFORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 1.7

OTHER INFORMATION: EXPRESSED IN HELLO, SIGNAL = 1.7

OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 1.5

OTHER INFORMATION: EXPRESSED IN BT474, SIGNAL = 0.96

OTHER INFORMATION: EXPRESSED IN BT474, SIGNAL = 0.96+0

OTHER INFORMATION: SMISSPROT HIT: P33485, BVALUE 3.606+00

US-09-864-761-37202
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                 PRIOR FILING DATE: 2000-02-26
PRIOR FILING DATE: 2000-05-26
PRIOR FILING DATE: 2000-05-26
PRIOR FILING DATE: 2000-05-36
PRIOR FILING DATE: 2000-03-3
PRIOR FILING DATE: 2000-03-3
PRIOR FILING DATE: 2000-10-04
PRIOR APPLICATION NUMBER: US 60/236,359
PRIOR PRIOR DATE: 2000-09-27
PRIOR APPLICATION NUMBER: PCT/USO1/0066
PRIOR APPLICATION NUMBER: PCT/USO1/0066
PRIOR APPLICATION NUMBER: PCT/USO1/0066
PRIOR PRIOR DATE: 2001-01-30
PRIOR APPLICATION NUMBER: PCT/USO1/0066
PRIOR PLING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: PCT/USO1/0066
PRIOR APPLICATION NUMBER: PCT/USO1/0066
PRIOR APPLICATION NUMBER: PCT/USO1/0066
PRIOR PLING DATE: 2001-01-30
PRIOR PRIING DATE: 2001-01-30
PRIOR PLING DATE: 2001-01-30
PRIOR PLING DATE: 2001-01-30
PRIOR PLING DATE: 2001-01-30
PRIOR PLING DATE: 2000-06-30
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Sequence 183032, Application US/10424599

Publication No. US20040031072A1

PEPLICANT: LA ROBA Thomas J

APPLICANT: Kovalic David K
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4; Conservative
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ORGANISM: Homo sapiens
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best_Local Similarity Matches 4; Conserva
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(S-09-864-761-37202

(S-09-864-761-37202

Squence 37202, Application US/09864761

Patent No. US20020048763A1

GENERAL INFORMATION:
APPLICANT: Penn, Sharron G.
APPLICANT: Rank, David R.
APPLICANT: Chen, Wensheng
TITLE OF INVENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR TITLE OF INVENTION: GENE EXPRESSION ANALYSIS BY MICROARRAY

FILE REFERENCE: Acomica-X-1

CURRENT APPLICATION NUMBER: US/09/664,761

CURRENT FILING DATE: 2001-05-23

PRIOR APPLICATION NUMBER: US 60/180,312
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ORGANISM: Artificial Sequence
PEATURE:
OTHER INFORMATION: synthetic clone BGF13 with first open reading
OTHER INFORMATION: frame
S-10-372-003A-71
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Publication No. US20030215846A1
GENERAL INFORMATION:
APPLICANT: Watt, Paul
APPLICANT: Thomas, Wayne
APPLICANT: Thomas, Wayne
APPLICANT: Hopkins, Richard
TITLE OF INVENTION: Methods of constructing and screening
TITLE OF INVENTION: Methods of constructing and screening
TITLE OF INVENTION: Miverse expression libraries
FILE REFERENCE: FBRIC40.001CP1
CURRENT APPLICATION NUMBER: US/10/372,003A
CURRENT FILING DATE: 2000-05-05
PRIOR FILING DATE: 1999-05-05
NUMBER OF SEQ ID NOS: 81
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 71
LENGTH: 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 95.0%; Score 19; DB 15; Length 41; Best Local Similarity 100.0%; Pred. No. 5.5e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                              Score 19; DB 15; Length 38; Pred. No. 5.1e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                          95.0%; Scottion 100.0%; Pred. No. cotton 0; Mismatches
PRIOR APPLICATION NUMBER: PCT/GB98/02382
PRIOR FILING DATE: 1998-08-07
PRIOR FILING DATE: 1997-08-07
NUMBER OF SEQ ID NOS: 63
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 45
LENGTH: 38
                                                                                                                                                                                                                                                                  TYPE: PRT ORGANISM: Lophius piscatorius S-10-430-752A-45
                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 95.0
Best Local Similarity 100.
Matches 4; Conservative
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S-10-372-003A-71
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Sequence 205632, Application US/10424599

Publication No. U52060031072A1

GENERAL INFORMATION:
APPLICANT: La Rosa Thomas J
APPLICANT: APPLICANTON: Boat Nucleic Acid Molecules and Other Molecules Associated With TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement CURRENT APPLICATION NUMBER: U5/10/424,599

NUMBER OF SEQ ID NOS: 285684

SEQ ID NO 205632

LENGTH: 52
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OTHER INFORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 1
OTHER INFORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 0.96
OTHER INFORMATION: EXPRESSED IN BETAL LIVER, SIGNAL = 0.96
OTHER INFORMATION: EXPRESSED IN HELLO, SIGNAL = 1.
OTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 1.1
OTHER INFORMATION: EXPRESSED IN HERAY, SIGNAL = 1.2
OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 1.1
OTHER INFORMATION: EXPRESSED IN PELA, SIGNAL = 1.1
OTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 2.1
OTHER INFORMATION: SWISSPROT HIT: PIL298, EVALUE 7.90e+00
US-09-864-761-38166
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95.0%; Score 19; DB 9; Length 48;
Best Local Similarity 100.0%; Pred. No. 6.4e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
                                                   PRICE FILING DATE: 2000-09-27
PRICE FILING DATE: 2001-01-30
PRICE APPLICATION NUMBER: PCT/USO1/00664
PRICE APPLICATION NUMBER: PCT/USO1/00669
PRICE FILING DATE: 2001-01-30
PRICE FILING DATE: 2001-01-30
PRICE FILING DATE: 2001-01-30
PRICE FILING DATE: 2001-01-30
PRICE PRICE APPLICATION NUMBER: PCT/USO1/00668
PRICE APPLICATION NUMBER: PCT/USO1/00668
PRICE APPLICATION NUMBER: PCT/USO1/00668
PRICE PRICE APPLICATION NUMBER: PCT/USO1/00669
PRICE PRICE APPLICATION NUMBER: PCT/USO1/00663
PRICE PRICE APPLICATION NUMBER: PCT/USO1/00661
PRICE PLING DATE: 2001-01-30
PRICE PLING DATE: 2001-01-30
PRICE APPLICATION NUMBER: PCT/USO1/00661
PRICE APPLICATION NUMBER: US 09/608,408
PRICE PLING DATE: 2000-06-30
PRICE PLING DATE: 2000-06-30
PRICE PLING DATE: 2000-06-30
PRICE PLING DATE: 2001-01-29
NUMBER OF SEQ ID NOS: 49117
PRICE PLING DATE: 2001-01-29
NUMBER OF SEQ ID NOS: 49117
PRICE PLING DATE: 2001-01-29
NUMBER OF SEQ ID NOS: 49166
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ORGANISM: Homo saplens
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Sequence 38166, Application US/09864761

Batent No. US200200487631

GENERAL INFORMATION:

APPLICANT: Penn, Sharron G.

APPLICANT: Rank, David K.

APPLICANT: Harzel, David K.

APPLICANT: Chen, Wensheng

TITLE OF INVENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL POR TITLE OF INVENTION: GENE EXPRESSION ANALYSIS BY MICROARRAY

TITLE OF INVENTION UNMBER: US/09/864,761

CURRENT APPLICATION NUMBER: US 60/180,312

PRIOR APPLICATION NUMBER: US 60/207,456

PRIOR APPLICATION NUMBER: US 99/632,366

PRIOR APPLICATION NUMBER: GB 24263.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 17118, Application US/10424599

Sequence 17118, Application US/10424599

Publication No. US20040031072A1

GENERAL INFORMATION:
APPLICANT: La Rose Thomas J
APPLICANT: Cao Yongwei
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement CURRENT APPLICATION NUMBER: US/10/424,599

CURRENT FILING DATE: 2003-04-28

NUMBER OF SEQ ID NOS: 285684

SEQ ID NO 171318

LENGTH: 45
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Similarity 100.0%; Pred. No. 6e+02;
4; Conservative 0; Mismatches 0; Indels
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OTHER INFORMATION: Clone ID: PAT_MRT3847_125715C.1.pep
-10-424-599-171318
                                                                                                                                                                                                                              FEATURE:
OTHER INFORMATION: Clone ID: PAT_MRT3847_136291C.1.pep
-10-424-599-183032
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 183032
                                                                                                                                                                                                                                                                                                                                                                                                                                  4; Conservative
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ORGANISM: Glycine max
                                                                                                                                                                           TYPE: PRT
ORGANISM: Glycine max
                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 4; Conserv
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-10-424-599-171318
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-09-864-761-38166
                                                                                                                                         LENGTH: 43
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) OTHER INFORMATION: synthetic clone BGF06 with first open reading ) OTHER INFORMATION: frame US-10-372-003A-67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: synthetic clone BGF05 with first open reading cornER INFORMATION: frame US-10-372-003A-63
                                                                                                                                                                                                                                                             APPLICANT: Watt, Paul
APPLICANT: Thomas, Wayne
APPLICANT: Thomas, Wayne
APPLICANT: Thomas, Wayne
TITLE OF INVENTION: Methods of constructing and screening
TITLE OF INVENTION: diverse expression libraries
FILE REPRESENCE: PRRC40.001CP1
CURRENT APPLICATION NUMBER: US/10/372,003A
CURRENT FILING DATE: 2003-02-21
PRIOR APPLICATION NUMBER: US 60/132,711
PRIOR FILING DATE: 1999-05-05
PRIOR FILING DATE: 1999-05-05
NUMBER OF SEQ ID NOS: 81
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 63
LIBRITHS SS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 67. Application US/10372003A
Publication No. US20030215846A1
GENERAL INFORMATION:
APPLICANT: Watt, Faul
APPLICANT: Thomas, Wayne
APPLICANT: Hopkins, Wayne
TITLE OF INVENTION: Methods of constructing and screening;
TITLE OF INVENTION: Methods of CONSTRUCTION
TITLE OF INVENTION: Methods of CONSTRUCTION
TITLE OF INVENTION: Methods of CONSTRUCTION
CURRENT PILING DATE: 2003-02-21
CURRENT FILING DATE: 2003-02-21
PRIOR FILING DATE: 2000-05-05
PRIOR PELING DATE: 1999-05-05
NUMBER OF SEQ ID NOS: 81
SOUTHWARE: FasteseQ for Windows Version 4.0
SEQ ID NO 67
LENGTH: 55
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               h Similarity 100.0%; Score 19; DB 15; Length 55; Similarity 100.0%; Pred. No. 7.3e+02; 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                               Sequence 63, Application US/10372003A Publication No. US20030215846A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
ORGANISM: Artificial Sequence
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ORGANISM: Artificial Sequence
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Best Local Similarity
Matches 4; Conserv
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Best Local Similarity
                                                              24 VAEF 27
                            2 VAEF 5
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US-10-372-003A-67
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                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 192247, Application US/10424599
Sequence 192247, Application US/10424599
Sequence 192247, Application No. US20040031072A1
GENERAL INFORMATION:
APPLICANT: LA ROSE Thomas J
APPLICANT: Kovalic David K
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement FILLE REFERENCE: 38 221(5323)
CURRENT APPLICATION NUMBER: US/10/424,599
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 192247
LENGTH: 55
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Publication No. US20040031072A1
GENERAL INFORMATION:
Bublication No. US20040031072A1
GENERAL INFORMATION:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
Cao Yongwei
TITLE OF INVENTION:
Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION:
PILE REFERENCE: 38-21(53223)B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 233502
LENGTH: 55
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                                                                                                                                              Length 52;
                                                                                                                                                                                            0; Indels
TYPE: PRT
ORGANISM: Glycine max
FEATURE:
OTHER INFORMATION: Clone ID: PAT_MRT3847_27713C.1.pep
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S-10-424-599-233502
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                                                                                                                                         95.0%; Score 19; DB 12; I
100.0%; Pred. No. 6.9e+02;
tive 0; Mismatches 0;
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Best Local Similarity 100.0
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Best Local Similarity 100.
Matches 4; Conservative
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ORGANISM: Glycine max
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us-09-594-978a-1.rapb

Matches

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Sequence 4, Application US/10219561
Publication No. US20030166567A1
GENERAL INFORMATION:
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Best Local Similarity luv...
Local 4; Conservative
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; ORGANISM: Homo sapiens
US-10-219-561-4
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ORGANISM: Glycine max
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-10-219-329-4
Sequence 4, Application US/10219329
Suglication No. US20030096757A1
GENERAL INFORMATION:
APPLICANT: Quirk, Stephen
APPLICANT: Quirk, Stephen
APPLICANT: Quirk, Stephen
APPLICANT: Weart, 10na f.
TITLE OF INVENTION: Anti-Cancer and Wound Healing Compounds
FILE REFERENCE: 1443.035w01
CURRENT APPLICATION NUMBER: US/10/219,329
CURRENT FILING DATE: 2002-08-15
PRIOR APPLICATION NUMBER: US 60/312,726
PRIOR FILING DATE: 2001-102-21
PRIOR FILING DATE: 2001-08-16
NUMBER OF SEQ ID NOS: 23
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 4
LENGTH: 56
TYPE: PRT
ORANISM: Home sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Quirk, Stephen APPLICANT: Quirk, Schail
TILLE OF INVENTION: Anti-Aging and Wound Healing Compounds
FILE REPERENCE: 1443.034U51
CURRENT APPLICATION NUMBER: US/10/153,185
CURRENT FILING DATE: 2002-08-13
PRIOR APPLICATION NUMBER: US 60/312,726
PRIOR APPLICATION NUMBER: US 60/312,726
PRIOR FILING DATE: 2001-08-16
NUMBER OF SEQ ID NOS: 20
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 4.0
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95.0%; Score 19; DB 14; Length 56;
Best Local Similarity 100.0%; Pred. No. 7.5e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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      0; Indels
    0; Mismatches
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Publication No. US20030148959A1
GENERAL INFORMATION:
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Best Local Similarity 100.
Matches 4; Conservative
      4; Conservative
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ORGANISM: Homo sapiens
-10-153-185-4
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10-219-329-4

SULT 32 -10-219-561-4

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SEQUENCE 215734, Application US/10424599
SEMERAL INFORMATION:
CENTERAL INFORMATION:
APPLICANT: LA ROSE Thomas J
APPLICANT: Rovalic David K
APPLICANT: Cao Yongwei
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
CURRENT APPLICATION WUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
LENGTH: 57
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APPLICANT: Quirk, Scephen
APPLICANT: Malik, Sohail
APPLICANT: Malik, Sohail
APPLICANT: Malik, Sohail
APPLICANT: Willanueva, Julie M.
TITLE OF INVENTION: Anti-Aging and Wound Healing Compounds
FILE REPRENCE: 1443.008US2
CURRENT APPLICATION NUMBER: US/10/219,561
CURRENT FILING DATE: 2002-08-15
PRIOR PILING DATE: 2001-12-21
PRIOR PILING DATE: 2001-12-21
PRIOR PILING DATE: 2001-08-16
PRIOR FILING DATE: 2001-08-16
PRIOR FILING DATE: 2001-08-16
PRIOR FILING DATE: 2001-08-16
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 4
LENGTH: 56
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Best Local Similarity 100.0%; Pred. No. 7.6e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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US-10-424-599-215734
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US-10-424-599-260762
; Sequence 260762, Application US/10424599
; Publication No. US20040031072A1
; GENERAL INFORMATION:
; APPLICANT: La Rosa Thomas J
; APPLICANT: Xovalic David K
; APPLICANT: Zhou Yihua
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| Bequence 45291, Application US/09864761 |
| Bequence 45291, Application US/09864761 |
| Beglence 45291, Application US/09864761 |
| Belaten No. US/02000008965341 |
| Belaten No. US/02000008965341 |
| Belaten No. US/02000008965341 |
| APPLICANT Rank, David R. |
| APPLICANT RANK, DAVID RANK, DAVID R. |
| APPLICANT RANK, DAVID RANK, DAVID R. |
| APPLICANT RANK, D
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95.0%; Score 19; DB 12; Length 58;
Best Local Similarity 100.0%; Pred. No. 7.8e+02;
Matches 4; Conservative 0; Mismatches 0; Indels
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; OTHER INFORMATION: Clone ID: PAT_MRT3847_36107C.1.pep
US-10-424-599-214930
CURRENT APPLICATION NUMBER: US/10/424,599 CURRENT FILING DATE: 2003-04-28 NUMBER OF SEQ ID NOS: 285684 SRQ ID NO 214930 LENGTH: 58
                                                                                                                                                         TYPE: PRT
ORGANISM: Glycine max
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US-09-864-761-45291
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S-10-424-599-214930
Sequence 2149310, Application US/10424599
Sequence 2149310, Application US/10424599
Publication No. US20040031072A1
GENERAL INFORMATION:
APPLICANT: La Rosa Thomas J
APPLICANT: Acovalic David K
APPLICANT: Cao Yongwei
TITILE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITILE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21 (53223) B
      APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21 (55223) B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 260762
LENGTH: 57
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APPLICANT: Thomas, Wayne
APPLICANT: Thomas, Wayne
APPLICANT: Thomas, Wayne
APPLICANT: Hopkins, Wayne
APPLICANT: Hopkins, Machods of
TITLE OF INVENTION: Methods of constructing and screening
TITLE OF INVENTION: diverse expression libraries
FILE REPRESSUR: FRAICACO.001071
CURRENT APPLICATION NUMBER: US/10/372,003A
CURRENT FILING DATE: 2003-02-21
FRICR APPLICATION NUMBER: US 60/132,711
FRICR APPLICATION NUMBER: US 60/132,711
FRICR FILING DATE: 1990-05-05
NUMBER OF SEQ ID NOS: 81
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 75
LENGTH: 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   95.0%; Score 19; DB 12; Length 57; 100.0%; Pred. No. 7.6e+02; Live 0; Mismatches 0; Indels
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S-10-424-599-260762
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ORGANISM: Artificial Sequence
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100.
Matches 4; Conservative
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Best Local Similarity 100.
Matches 4; Conservative
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S-10-372-003A-75
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APPLICANT: Zuker, Charles S.
APPLICANT: Adler, Jon Elliot
APPLICANT: Adler, Jon Elliot
APPLICANT: Adler, Jon Elliot
APPLICANT: Adler, Jon Elliot
APPLICANT: Hoon, Mark
APPLICANT: How Regents of the University of California
APPLICANT: The Regents of the United States of America
APPLICANT: The Government of the United States of America
APPLICANT: Department of Health and Hunan Services
ITLE OF INVENTION: T2R, a No. US20040038312Alel Family of Taste Receptors
IILE REFERENCE: 02307E-09802US
CURRENT APPLICATION WHERE: US 101/364,861
CURRENT FILING DATE: 2003-06-30
PRIOR FILING DATE: 1999-09-10
NUMBER OF SEQ ID NOS: 95
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 80
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Publication No. US20030157568A1

GENERAL INFORMATION:

APPLICANT: Zuker, Charles S.

APPLICANT: Adler, Jon Elliot

APPLICANT: Mucler, Mon. Mark

APPLICANT: Hoon, Mark

APPLICANT: The Regents of the University of California

APPLICANT: The Regents of the University of the APPLICANT: APPLICANT: APPLICANT: APPLICANT: The Regents of the United States of America

APPLICANT: Department of Health and Human Services

APPLICANT: Department of Health and Human Services

TITLE REFERENCE: 02307E-098000US

FILE REFERENCE: 02307E-098000US

CURRENT APPLICATION NUMBER: US/10/383,982
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                                                                                                                                                                                                     95.0%; Score 19; DB 11; I
100.0%; Pred. No. 9.1e+02;
tive 0; Mismatches 0;
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NUMBER OF SEQ ID NOS: 9068
SOFTWARE: FastSEQ for Windows Version 4.0
SOED ID NO 40
LENGTH: 68
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 80, Application US/10364861 Publication No. US20040038312A1 GENERAL INFORMATION:
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Best Local Similarity 100.
                                                                                                                                                                                                     Query Match
Best Local Similarity 100.
Matches 4; Conservative
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                                                                                                                            ; ORGANISM: Homo sapiens
US-09-864-408A-40
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Publication No. US20040009474A1
GENERAL INFORMATION: US20040009474A1
GENERAL INFORMATION: US20040009474A1E
APPLICANT: Leach, Martin D.
APPLICANT: Leach, Martin D.
APPLICANT: Shimkets, Richard A.
TITLE OF INVENTION: No. US20040009474A1E1 Human Polymucleotides and Polypeptides Ence FILE REFERENCE: 21402-012
CURRENT APPLICATION NUMBER: US/09/864,408A
CURRENT FILING DATE: 2001-05-24
PRIOR APPLICATION NUMBER: 60/206,690
PRIOR FILING DATE: 2000-05-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Zuker, Uon Elliot
APPLICANT: Adler, Jon Elliot
APPLICANT: Adler, Jon Elliot
APPLICANT: Relear, Ken
APPLICANT: Mueller, Ken
APPLICANT: Mueller, Ken
APPLICANT: Hoon, Mark
APPLICANT: The Regents of the University of California
APPLICANT: The Regents of the University of the
APPLICANT: The Regents of the University of the
APPLICANT: Beresented by the Secretary of the
APPLICANT: Beresented by the Secretary of the
APPLICANT: Beresented by the Secretary of the
APPLICANT: Branch SF, a No. US20020051997Alel Family of Taste Receptors
FILE REFERENCE: 02307E-098000US
CURRENT APPLICATION NUMBER: US/09/393,634
CURRENT APPLICATION NUMBER: US/09/393,634
CURRENT PILING DATE: 1999-09-10
NUMBER OF SEQ ID NOS: 92
SOFTWARE: PATENTIN Ver. 2.1
SEQ ID NO 80
LENGTH: 68
TYPE: DPT
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                                                                                                 OTHER INFORMATION: MAP TO AC009079.4

OTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 0.54

OTHER INFORMATION: EXPRESSED IN FETAL LIVER, SIGNAL = 0.77

OTHER INFORMATION: EXPRESSED IN BOUN MARKOW, SIGNAL = 0.74

OTHER INFORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 0.74

OTHER INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 0.74

OTHER INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 0.48

OTHER INFORMATION: EST HUMAN HIT: AV756022.1, EVALUE 6.00e-28

OTHER INFORMATION: SWISSPROT HIT: P56315, EVALUE 2.00e+00
                                                                                                                                                                                                                                                                                                                                                               Length 60;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 68;
                                                                                                                                                                                                                                                                                                                                                          95.0%; Score 19; DB 9; Length 60; 100.0%; Pred. No. 8e+02; ative 0; Mismatches 0; Indels
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100.0%; Pred. No. 9.1e+02;
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100.0%; Pre-
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
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ORGANISM: Homo sapiens
                             TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 4; Conserv
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Best Local Similarity
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     LENGIH: 60
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Gaps

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                                                                                      TYPE: PRI CORGANISM: Homo sapiens

ORGANISM: Homo sapiens

PEATURE:
OTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 0.81
OTHER INFORMATION: EXPRESSED IN ADULT LIUER, SIGNAL = 0.91
OTHER INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 0.92
OTHER INFORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 0.72
OTHER INFORMATION: EXPRESSED IN FETAL LIUER, SIGNAL = 0.72
OTHER INFORMATION: EXPRESSED IN FETAL LIUER, SIGNAL = 0.71
OTHER INFORMATION: EST_HUMAN HIT: BESSE9987.1, EVALUE 2.00e+00
US-09-864-761-45716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    95.0%; Score 19; DB 9; Length 69; 100.0%; Pred. No. 9.2e+02; tive 0; Mismatches 0; Indels
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         SOFTWARE: Annomax Sequence Listing Engine vers. 1.1
SEQ ID No 45716
LENGTH 69
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95.0%; Score 19; DB 9; Le
Best Local Similarity 100.0%; Pred. No. 9.2e+02;
Matches 4; Conservative 0; Mismatches 0;
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APPLICANT: SENOR, MASATO
APPLICANT: OZAKI, AKATO
APPLICANT: OZAKI, AKATO
TITLE ON INVENTION: NOVEL POLYNUCLEOTIDES
FILE REPERENCE: 249-125
CURRENT APPLICATION NUMBER: US/09/738,626
CURRENT APPLICATION NUMBER: US 99/377484
PRIOR APPLICATION NUMBER: US 99/377484
PRIOR APPLICATION NUMBER: US 00/159162
PRIOR PILING DATE: 2000-04-07
PRIOR FILING DATE: 2000-04-07
PRIOR FILING DATE: 2000-04-07
PRIOR FILING DATE: 2000-08-03
NUMBER OF SEQ ID NOS: 7059
SOFTWARE: PATEGATION NUMBER: 30
SEQ ID NO 5596
LENGTH: 69
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APPLICANT: La Rosa Thomas J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 5596, Application US/09738626 Publication No. US20020197605A1 GENERAL INFORMATION:
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; ORGANISM: Corynebacterium glutamicum
US-09-738-626-5596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: NAKAGAWA, SATOSHI
APPLICANT: MIZOGUCHI, HIROSHI
APPLICANT: MNDO, SERKO
APPLICANT: HAYASHI, MIKIRO
APPLICANT: OCHIAI, KEIKO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ANDO, SEIKO
HAYASHI, MKIRO
OCHIAI, KEIKO
YOKOI, HARUHIKO
TATEISHI, NAOKO
SENOH, AKHIRO
IKEDA, MASATO
OZAKI, AKI
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Matches 4; Conservative
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PRICEATE NO. USCO202048763A1

APPLICANT: Rank, David R.

APPLICANT: Rank, David R.

APPLICANT: Rank, David R.

APPLICANT: Rank, David R.

APPLICANT: Chen, Wensheng

TITLE OF INVENTION: HANN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR FILES OF INVENTION: HANN GENOME-DERIVED SINGLE EXON NUCLEIC ACID FROBES USEFUL FOR FILES OF INVENTION: HANN GENOME-SERION ANALYSIS BY MICROARRAY

FILES REPRENDED ACCOURS. Accorded ACID-6-23

PRIOR PELICATION NUMBER: US (0.180, 312)

PRIOR PELICATION NUMBER: US (0.180, 312)

PRIOR PELICATION NUMBER: US (0.207, 456)

PRIOR PELICATION NUMBER: PET/USOL/0666

PRIOR PELICATION NUMBER: PET/USOL/0661

PRIOR PET/USOL/0661

PRIOR PELICATION NUMBER: PET/USOL/0661

PRIOR PET/USOL/0661

PRIOR PET/USOL/0661

PRIOR PET/USOL/0661

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CURRENT FILING DATE: 2003-03-07
PRIOR APPLICATION NUMBER: US/09/393,634
PRIOR FILING DATE: 1999-09-10
NUMBER OF SEQ ID NOS: 92
SEQ ID NO 80
LENGTH: 68
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Patent No. US20020048763A1
                                                                                                                                                                                                                                                                                                       OTHER INFORMATION: human GR24
S-10-383-982-80
                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
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APPLICANT: Zhou Yihua

APPLICANT: Zhou Yihua

APPLICANT: Cao Yongwei

TITLE OF INTENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With

TITLE OF INTENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With

FILE REPERENCE: 38-21(5323)B

CURRENT PELLING NUMBER: US/10/424,599

NUMBER OF SEQ ID NOS: 285684

SEQ ID NO 202605

LENGTH: 71

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Publication No. US20030194704A1
GENERAL INFORMATION
APPLICANT: Penn, Sharron G.
APPLICANT: Rank, David R.
APPLICANT: Hanzel, David K.
TITLE OF INVENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR FILE REFERENCE: AEOMICA-K-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: La Rosa Thomas J
APPLICANT: La Rosa Thomas J
APPLICANT: Kovalic David K
APPLICANT: A Covalic David K
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53223) B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; OTHER INFORMATION: Clone ID: PAT_MRT3847_24978C.1.pep
US-10-424-599-202605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; OTHER INFORMATION: Clone ID: PAT_MRT3847_90329C.1.pep
US-10-424-599-274981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 95.0%; Score 19; DB 12;
Best Local Similarity 100.0%; Pred. No. 9.5e+02;
Matches 4; Conservative 0; Mismatches 0;
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NAME/KEY: unsure
LOCATION: (1)..(71)
OTHER INFORMATION: unsure at all Xaa locations
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Glycine max
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT
ORGANISM: Glycine max
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US-10-424-599-274981
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LENGTH: 71
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SENERAL INFORMATION NO. US20030194704A1
SENERAL INFORMATION NO. US20030194704A1
SENERAL INFORMATION NO. US20030194704A1
APPLICANT: Penn, Sharron G.
APPLICANT: Rank, David R.
APPLICANT: Hanzel, David R.
APPLICANT: HONERTION: UNMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR CURRENT APPLICATION NUMBER: 105/10/029,386
CURRENT FILING DATE: 2001-12-20
NUMBER OF SEQ ID NOS: 34288
SEQ ID NOS: 34288
LENGTHARE Annomax Sequence Listing Engine vers. 1.1
SEQ ID NO 28645
LENGTH: 70
                                                                                                                                 APPLICANT: Kovalic David K
APPLICANT: Zhou Yihna
APPLICANT: Zhou Yihna
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
FILE REFERENCE: 38 -21 (53233) B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT APPLICATION NUMBER: US/10/424
NUMBER OF SEQ ID NOS: 285684
ENDIT OF 185385
LENGTH: 69
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OTHER INFORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 8.8

OTHER INFORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 9.3

OTHER INFORMATION: EXPRESSED IN PLACENTA, SIGNAL = 5.8

OTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 5.7

OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 5.7

OTHER INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 5.7

OTHER INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 8.7

OTHER INFORMATION: EXPRESSED IN BRAIN, SIGNAL = 7

OTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 7

OTHER INFORMATION: SMISSPROT HIT: P78716, EVALUE 3.00e-04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95.0%; Score 19; DB 12; Length 69; 100.0%; Pred. No. 9.2e+02; ive 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         95.0%; Score 19; DB 14; Length 70 ilarity 100.0%; Pred. No. 9.4e+02; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OTHER INFORMATION: Clone ID: PAT_MRT3847_138417C.1.pep-10-424-599-185385
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'ublication No. US20040031072A1
APPLICAL INFORMATION:
APPLICANT: La Rosa Thomas J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT ORGANISM: Glycine max
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nuery Match
Sest Local Similarity
Aatches 4; Conserv
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STATES NIXON & VANDERHYE P.C.
STREET: 1100 NORTH GLEBE ROAD
STATE: ALLINGONA
COUNTY: U.S.A.
COMPUTER READABLE FORM:
MEDIUM TYPE: Bloppy disk
COMPUTER: BEACHILD Release #1.0, Version #1.30
SOFTWARE: Pactetin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/214,188
FILING DATE: 08-AUG-2002
CLASSIFCATION: CURNOWN>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/894,139
FILING DATE: 13-AUG-1997
ATTORNAY/AGENT INPERMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cuery Match 95.0%; Score 19; DB 14; Length 74; Best Local Similarity 100.0%; Pred. No. 9.9e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                HIJMANS, ELEANORE M.
TITLE OF INVENTION: TRANSCRIPTION FACTOR E2F-5
NUMBER OF SEQUENCES: 25
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: ONURA, SATOSHI
APPLICANT: IKEDA, HARUO
APPLICANT: ISHIKAWA, JUN
APPLICANT: BHIKAWA, JUN
APPLICANT: SHIKAWA, HIROSHI
APPLICANT: SHIKAWA, HIROSHI
APPLICANT: SAKAKI, YOSHIYUKI
APPLICANT: SAKAKI, YOSHIYUKI
APPLICANT: SAKAKI, YOSHIYUKI
APPLICANT: BATTORI, WASAHIRA
ITLE OF INVENTION: NOVEL POLYNUCLEOTIDES
CURRENT APPLICATION NUMBER: US/10/156,761
CURRENT FILING DATE: 2002-05-30
PRIOR PILING DATE: 2001-05-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: linear

MOLECTLE TYPE: peptide
SEQUENCE DESCRIPTION: SEQ ID NO: 10:
US-10-214-188-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: WILSON, WARY J.
REGISTRATION NUMBER: 32,955
REFERENCE/DOCKET WHORER: 620-2
TELECOMUNICATION INFORMATION:
TELEPHONE: (703) 816-400
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
LENGTH: 74 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 9071, Application US/10156761 Publication No. US20030119018A1 GENERAL INFORMATION:
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STRANDEDNESS: <Unknown>
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S-quence 29320, Application US/10029386
Squence 29320, Application US/10029386
Spublication No. US20030194704A1
GENERAL INFORMATION:
APPLICANT: Penn, Sharron G.
APPLICANT: Hanzel, David K.
APPLICANT: Hanzel, David K.
TITLE OF INVENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR GILLE REPERBRUCE: EXOMINA-X-2
CURRENT APPLICATION NUMBER: US/10/029,386
CURRENT FILING DATE: 2001-12-20
NUMBER OF SEQ ID NOS: 34288
SOFTWARE: Annomax Sequence Listing Engine vers: 1.1
SEQ ID NO 29320
LENGTH: 722
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OTHER INFORMATION: MAP TO CHR2.1
OTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 0.98
OTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 0.99
OTHER INFORMATION: EXPRESSED IN BOULT LIVER, SIGNAL = 0.90
OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 3.4
OTHER INFORMATION: EXPRESSED IN FETAL LIVER, SIGNAL = 1.1
OTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 0.56
OTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 0.056
OTHER INFORMATION: SWISSPROT HIT: P14650, EVALUE 6.00e-14
S-10-029-386-29320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          95.0%; Score 19; DB 14; Length 71; 100.0%; Pred. No. 9.5e+02; tive 0; Mismatches 0; Indels
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                                                                                                                                                                                                                       FRATURE:
OTHER INFORMATION: MAP TO CHR7.1
OTHER INFORMATION: EXPRESSED IN FETAL LIVER, SIGNAL = 0.82
OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 1.1
OTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 0.73
OTHER INFORMATION: EXPRESSED IN HEART, SIGNAL = 6.2
OTHER INFORMATION: EXPRESSED IN ADULT LIVER, SIGNAL = 6.2
OTHER INFORMATION: SYPRESSED IN ADULT LIVER, SIGNAL = 1
OTHER INFORMATION: SWISSPROT HIT: P21333, EVALUE 5.00e-22
S-10-029-386-30348
CURRENT APPLICATION NUMBER: US/10/029,386
CURRENT FILING DATE: 2001-12-20
NUMBER OF SEQ ID NOS: 34288
SOFTWARE: Annomax Sequence Listing Engine vers. 1.1
SEQ ID NO 30348
LENGTH: 71
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Publication No. US20030022260A1
GENERAL INFORMATIA
APPLICANT: LA THANGUE, NICHOLAS B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100.
Matches 4; Conservative
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Best Local Similarity 100.
Matches 4; Conservative
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ORGANISM: Homo sapiens
                                                                                                                                                                     TYPE: PRT
ORGANISM: Homo sapiens
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APPLICANT: La Rosa Thomas J
APPLICANT: La Rosa Thomas J
APPLICANT: Ear You will be a perfect to the perfect to 
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Sequence 211-908, Application US/10424599
Publication No. US20040031072A1
GENERAL INFORMATION:
APPLICANT: Le Rosa Thomas J
APPLICANT: Kovalic David K
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(5323)B
CURRENT APPLICANTON NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 211908
LENGTH: 77
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   Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 77;
   Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; OTHER INFORMATION: Clone ID: PAT_MRT3847_70669C.1.pep
US-10-424-599-253204
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1e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: unsure
LOCATION: (1)..(76)
CHER INFORMATION: unsure at all Xaa locations
PEATURE:
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   0; Mismatches
                                                                                                                                                                                                                                                                                                      Sequence 253204, Application US/10424599
Publication No. US20040031072A1
GENERAL INFORMATION:
4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT ORGANISM: Glycine max
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT
ORGÅNISM: Glycine max
                                                                                                                               12 VAEF 15
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                                                             2 VAEF 5
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Matches
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Sequence 156128, Application US/10424599
Publication No. US20040031072A1
SENERAL INFORMATION
SENERAL INFORMATION
APPLICANT: Excess Thomas J
APPLICANT: APPLICANT: About Kinus
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
CURRENT APPLICANTON NUMBER: US/10/424,599
CURRENT APPLICANTON NUMBER: US/10/424,599
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 156128
LENGTH: 75
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PERSAL INPORMATION:
APPLICANT: A Rosa Thomas J
APPLICANT: APPLICANT: A Rosa Thua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53223) B
CURRENT APPLICANTON NUMBER: US/10/424,599
NUMBER OF SEQ ID NOS: 285684
BEQ ID NOS: 285684
LENGTH: 75
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                                                                                          Query Match 95.0%; Score 19; DB 14; Length 74; Best Local Similarity 100.0%; Pred. No. 9.9e+02; Matches 4; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 95.0%; Score 19; DB 12; Length 75; Sest Local Similarity 100.0%; Pred. No. 1e+03; Matches 4; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: Clone ID: PAT_MRT3847_112004C.1.pep
10-424-599-156128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OTHER INFORMATION: Clone ID: PAT_MRT3847_78089C.1.pep .10-424-599-261424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Duery Match 95.0%; Score 19; DB 12; 3est Local Similarity 100.0%; Pred. No. 1e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE:
NAME/KEY: unsure
LOCATION: (1)..(75)
CTHER INFORMATION: unsure at all Xaa locations
FEATURE:
ORGANISM: Streptomyces avermitilis -10-156-761-9071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Glycine max
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                                                                                                                                                                                                                                                                                                      36 VAEF 39
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-10-424-599-156128
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US-10-424-599-162039

US-10-424-599-162039

Sequence 162039, Application US/10424599

Sequence 162039, Application No. US20040031072A1

GENERAL INFORMATION:

APPLICANT: La Rosa Thomas J

APPLICANT: Zhou Yihua

APPLICANT: Zhou Yihua

TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With

TITLE OF INVENTION: Blants and Uses Thereof for Plant Improvement

TITLE OF INVENTION: B-2003-04-28

CURRENT FILING DATE: 2003-04-28

UNMBER OF SEQ ID NOS: 285684

EBNGTH: 78
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Publication No. US20040031072A1
GENERAL INFORMATION:
APPLICANT: La Rose Thomas J
APPLICANT: Kovalic David K
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53233)B
CURRENT APPLICANTON: Plants and Uses Thereof for Plant Improvement
FILE REFERENCE: 38-21(53233)B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
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CURRENT FILING DATE: 2001-12-20

NUMBER OF SEQ ID NOS: 34288

SOFTWARE: Annomax Sequence Listing Engine vers. 1.1

SEQ ID NO 32709

LENGTH: 77

TYPE: PRT

CREANISM: Homo sapiens

FRATURE:
OTHER INFORMATION: WAP TO AC004186.1

OTHER INFORMATION: EXPRESSED IN BONE MARROW, SIGNAL = 0.76

OTHER INFORMATION: EXPRESSED IN LUNG, SIGNAL = 1.5

OTHER INFORMATION: EXPRESSED IN HELA, SIGNAL = 1.5

OTHER INFORMATION: SKISSPROT HIT: P14373, EVALUE 7.50e+00
US-10-029-386-32709
                                                                                                                                                                                                                                                                                                                                                                                               Query Match 95.0%; Score 19; DB 14; Length 77; Best Local Similarity 100.0%; Pred. No. 1e+03; Matches 4; Conservative 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; OTHER INFORMATION: Clone ID: PAT_MRT3847_117339C.1.pep
US-10-424-599-162039
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Best Local Similarity 100.
Matches 4; Conservative
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ORGANISM: Glycine max
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Publication No. US20030194704A1
GENERAL INFORMATION:
APPLICANT: Penn, Sharron G.
APPLICANT: Rank, David K.
APPLICANT: Hanzel, David K.
TITLE OF INVENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR TITLE OF INVENTION: EXPRESSION ANALYSIS TWO
FILE REPERENCE: ABONICA-X-2
CURRENT APPLICATION NUMBER: US/10/029,386
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                                                                                  SEULT 35
SEQUENCE 7493
Sequence 7493, Application US/10335977
Sequence 7493, Application US/10335977
Sequence 7493, Application US/10335977
SEQUENCE USON USCALA SEQUENCE APPLICANT: DOUGLAS SMITH et al
APPLICANT: DOUGLAS SMITH et al
TITLE OF INVENTION: RELATING TO HELICOBACTER PYLORI FOR
DIAGNOSTICS AND THERAPEUTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   95.0%; Score 19; DB 12; Length 77;
100.0%; Pred. No. 1e+03;
tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                       STATE: Massachusetts
COUNTRY: USA
ZIF: 02109-1875
COMPUTER READABLE FORM:
MEDIUM TYPE: CD/ROM ISO9660
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: Windows NT 4.0
SOFTWARE: UNIX
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/335,977
FILING DATE: 30-Dec-2002
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: 08/993,002
FILING DATE: 17-DEC-1997
ATTORNEY AGENT INFORMATION:
NAME: Mandragouras, Amy E.
REGISTRATION NUMBER: 36,207
REFERENCE DOCKET NUMBER: 36,207
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)722-7400
TELEPHONE: (617)7242-4214
INFORMATION POR SEQ ID NO: 7493:
SEQUENCE CHARACTER.FSTICS:
LENGTH: 77 aming acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: misc feature
LOCATION: (B) LOCATION 1...77
SEQUENCE DESCRIPTION: SEQ ID NO: 7493:
S-10-335-977-7493
                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD
STREET: 28 State Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Helicobacter pylori
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: YES
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 95.0
Best Local Similarity 100.
Matches 4; Conservative
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S-10-029-386-32709
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Sequence 5282, Application US/09864408A

Publication No. US20040009474A1

GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
THE OF INVENTION:
APPLICANT:
Shimkets, Richard A.
TITLE OF INVENTION: No. US20040009474A1e1 Human Polynucleotides and Polypeptides Encor
TITLE OF INVENTION: No. US20040009474A1e1 Human Polynucleotides and Polypeptides CURRENT PILING DATE: 21402-012
CURRENT APPLICATION NUMBER: US/09/864,408A
CURRENT FILING DATE: 2000-05-24
NUMBER OF SEQ ID NOS: 9068
SEQ ID NO 5282
IENGTH: 84
                                                                                Sequence 14, Application US/10367980A
PUDIcation No. US20030228592A1
GENERAL INFORMATION:
APPLICANT: St Vincent's Institute of Medical Research
APPLICANT: Rogers, Suzanne D
APPLICANT: Rogers, Suzanne D
APPLICANT: Best, James D
TITLE REFERENCE: V3.AAH: PPL792B
FILE REFERENCE: V3.AAH: PPL792B
CURRENT APPLICATION NUMBER: U3/10/367,980A
CURRENT FILING DATE: 2003-02-19
FRIOR APPLICATION NUMBER: 09/509,731
PRIOR PELICATION NUMBER: 09/509,731
PRIOR FILING DATE: 2003-02-19
NUMBER OF SEQ ID NOS: 42
SOFTWARE: Patentin version 3.2
SEQ ID NO 14
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1.1e+03;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
95.0%; Score 19; DB
Best Local Similarity 100.0%; Pred. No. 1.1
Matches 4; Conservative 0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME/KEY: misc feature; OTHER INFORMATION: GLUT2
US-10-367-980A-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
CORGANISM: Homo sapiens
US-09-864-408A-5282
                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
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Sublication No. US20040031072A1
SENERAL INFORMATION:
APPLICANT: La Rosa Thomas J
APPLICANT: Avair Dou Yihua
APPLICANT: Avair Dou Yihua
APPLICANT: Cay Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
FILLE REFERENCE: 38-21 (53223) B
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILLE REFERENCE: 38-21 (53223) B
CURRENT APPLICANTON NUMBER: US/10/424,599
CURRENT APPLICANTON NUMBER: US/10/424,599
NUMBER OF SEQ ID NOS: 285684
ENDITH: 80
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              95.0%; Score 19; DB 12; Length 80; 100.0%; Pred. No. 1.1e+03; ative 0; Mismatches 0; Indels
                                                                                                                                 Length 78;
                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: MYSEQ, INC
TITLE OF INVENTION: NOVEL NUCLEIC ACIDS AND POLYPEPTIDES
FILE REPERENCE: 21272-113 (793)
CURRENT APPLICATION NUMBER: US/10/363,616
CURRENT FILING DATE: 2003-03-03
PRIOR APPLICATION NUMBER: 09/654,935
PRIOR PILING DATE: 2000-09-01
NUMBER: OF EQ ID NOS: 490
LENGTH: 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE: OTHER INFORMATION: Clone ID: PAT_MRT3847_37165C.1.pep
10-424-599-216097
                                                               OTHER INFORMATION: Clone ID: PAT_MRT3847_79240C.1.pep 10-424-599-262701
                                                                                                                               95.0%; Score 19; DB 12;
100.0%; Pred. No. 1e+03;
7ative 0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                             Sequence 368, Application US/10363616
Publication No. US20040044181A1
SENERAL INFORMATION:
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Sest Local Similarity 100.
Matches 4; Conservative
                                                                                                                                                                                4; Conservative
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ORGANISM: Homo sapiens
10-363-616-368
TYPE: PRT
ORGANISM: Glycine max
FEATURE:
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ORGANISM: Glycine max
                                                                                                                                 Query Match
Best Local Similarity
Matches 4; Conserv
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-10-424-599-216097
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10-363-616-368
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Gaps

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Gaps

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APPLICANT: Oblean, Kari L.
APPLICANT: Oblean, Kari L.
APPLICANT: Wall, Daniel
APPLICANT: Wall, Daniel
APPLICANT: Trawick, John D.
APPLICANT: Trawick, John D.
APPLICANT: Trawick, John D.
APPLICANT: Trawick, John D.
APPLICANT: Traminch, Robert T.
APPLICANT: Xu, H Howard
ITILE OF INVENTION: Identification of Essential Genes in
ITILE OF INVENTION: Identification of Essential Genes in
ITILE OF INVENTION: Identification of Essential Genes in
ITILE OF INVENTION: Identification of Essential
CURRENT FILITAG DATE: 2001-03-21
PRIOR APPLICATION NUMBER: 60/206,848
PRIOR PILING DATE: 2000-05-23
PRIOR PLING DATE: 2000-05-23
PRIOR PLING DATE: 2000-10-23
PRIOR PLING DATE: 2000-10-23
PRIOR PLING DATE: 2000-11-27
PRIOR APPLICATION NUMBER: 60/255,625
PRIOR PLING DATE: 2000-11-27
PRIOR PLING DATE: 2000-11-27
PRIOR PELING DATE: 2000-11-27
PRIOR PELING DATE: 2000-12-26
PRIOR PELING DATE: 2000-12-27
PRIOR PELING DATE: 2001-12-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 85;
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                                                                                                                                                                                                                                                                                                                                                                                           ) OTHER INFORMATION: Clone ID: PAT_MRT3847_24299C.l.pep
US-10-424-599-201853
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
95.0%; Score 19; DB 12; L
Best Local Similarity 100.0%; Pred. No. 1.1e+03;
Matches 4; Conservative 0; Mismatches 0;
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 201853
LENGTH: 85
LENGTH: 85
TYPE: PRT
ORGANISM: Glycine max
FEATURE:
NAME/KEY: unsure
LOCATION: (1)...(85)
OTHER INFORMATION: unsure at all Xaa locations
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Patent No. US20020061569A1
GENERAL INFORMATION:
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                                               APPLICANT: Recipon, Herve
APPLICANT: Recipon, Herve
APPLICANT: Recipon, Herve
APPLICANT: Gafferkey, Robert
APPLICANT: Gafferkey, Robert
APPLICANT: Sun, Yongming
APPLICANT: Liu, Chenghua
APPLICANT: Liu, Chenghua
APPLICANT: Liu, Chenghua
TITER OF INVENTION: Compositions and Methods Relating to Breast Specific Genes and PT
TITER PEFFERICE: Compositions and Methods Relating to Breast Specific Genes and PT
CURRENT APPLICATION NUMBER: US/10/078,090
CURRENT FILING DATE: 2002-02-14
PRIOR FILING DATE: 2001-02-15
NUMBER OF SEQ ID NOS: 210
SOFTWARE: Patentin version 3:1
ENGTH: 84
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Publication No. US20040031072A1
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: La Rosa Thomas J
APPLICANT: La Rosa Thomas J
APPLICANT: About K
APPLICANT: Coo Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
CURRENT FILING DATE: 2003-04-28
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
LENGTH: 85
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Sequence 201853, Application US/10424599
Publication No. US2040031072A1
GENERAL INFORMATION:
APPLICANT: La ROSa Thomas J
APPLICANT: Kovalic David K
APPLICANT: A POST Thou Yihua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
FILE REPERENCE: 38-21(53223)B
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S-10-424-599-155636
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Best Local Similarity 100...
-... 4; Conservative
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Matches 4; Conservative
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ORGANISM: Homo sapien
S-10-078-090-125
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ORGANISM: Glycine max
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S-10-424-599-155636
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2 VAEF 5
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APPLICANT: Mang, Liangeu
APPLICANT: Malone, Carlos
APPLICANT: Aselbeck, Robert
APPLICANT: Aselbeck, Robert
APPLICANT: Collsen, Kari
APPLICANT: Travick, Judith
APPLICANT: Travick, Judith
APPLICANT: Travick, John
APPLICANT: Travick, John
APPLICANT: Travick, John
APPLICANT: Carr, Grant
APPLICANT: Yammonto, Robert
APPLICANT: Yu, H.
TITLE OF INVENTION: Identification of Essential Genes in Microorganisms
FILE REFERENCE: ELITRA 0.344
CURRENT APPLICATION NUMBER: US/10/282,122A
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                                                                                        APPLICANT: Haselbeck, Kobert
APPLICANT: Haselbeck, Kobert
APPLICANT: Syskind, Judith W.
APPLICANT: Zyskind, Judith W.
APPLICANT: Trawick, John D.
APPLICANT: Trawick, John D.
APPLICANT: Trawick, John D.
APPLICANT: Yamamoto, Robert T.
APPLICANT: Yamamoto, Robert T.
APPLICANT: Xi, H. Howaryotes
TITLE OF INVENTION: Identification of Essential Genes in
TITLE OF INVENTION: Prokaryotes
TITLE OF INVENTION: Prokaryotes
TILLE OF INVENTION: Prokaryotes
TILLE OF INVENTION: DATE: 2001-03-21
CURRENT APPLICATION NUMBER: 60/191,078
PRIOR FILLING DATE: 2000-05-26
PRIOR PILLING DATE: 2000-05-26
PRIOR APPLICATION NUMBER: 60/207,727
PRIOR PILLING DATE: 2000-05-26
PRIOR APPLICATION NUMBER: 60/207,727
PRIOR FILING DATE: 2000-10-23
PRIOR FILING DATE: 2000-11-27
PRIOR APPLICATION NUMBER: 60/257,931
PRIOR FILING DATE: 2000-12-22
PRIOR FILING DATE: 2000-12-22
PRIOR FILING DATE: 2000-12-22
PRIOR FILING DATE: 2001-02-16
NUMBER OF SEQ ID NOS: 14110
SOFTWARE: FRASEQ for Windows Version 4.0
SEQ ID NO 11245
LENGTH: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           95.0%; Score 19; DB 9; Length 89; 100.0%; Pred. No. 1.2e+03;
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Sequence 11245, Application US/09815242
Patent No. US20020061569A1
GENERAL INFORMATION:
APPLICANT: Haselbeck, Robert
APPLICANT: Ohlsen, Kari L.
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PRIOR APPLICATION UNDBER: 60/191,078
PRIOR FILING DATE: 2000-03-21
PRIOR APPLICATION NUMBER: 60/206,848
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ORGANISM: Haemophilus influenzae
09-815-242-11245
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Best Local Similarity
Matches 4; Conserv
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PRICE FILING NATE: 2000-05-26

PRICE PLING PARE: 2000-05-26

PRICE PLING NATE: 2000-10-23

PRICE PLING NATE: 2000-10-23

PRICE PLING NATE: 2000-11-23

PRICE PLING NATE: 2000-11-24

PRICE PLING NATE: 2000-11-27

PRICE PRICE PLING NATE: 2000-11-27
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Gaps

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4; Conservative
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    Matches
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IITLE OF INVENTION: Identification of Essential Genes in Microorganisms
FILE REFERENCE: ELITRA.034A
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PRIOR FILING DATE: 2001-02-09
PRIOR APPLICATION NUMBER: 60/269,308
PRIOR PILING DATE: 2001-02-16
REmaining Prior Application data removed - See File Wrapper or PALM.
NUMBER OF SEQ ID NOS: 78614
SOFTWARE: Patentin version 3.1
LENGTH: 89
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NUMBER OF SEQ ID NOS: 78614
SOFTWARE: Patentin version 3.1
SEQ ID 065960
LENGTR: 89
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Pred. No. 1.2e+03;
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CURRENT FILING DATE: 2003-02-20
PRIOR APPLICATION NUMBER: 60/191,078
PRIOR APPLICATION NUMBER: 60/191,078
PRIOR APPLICATION NUMBER: 60/206,848
PRIOR APPLICATION NUMBER: 60/206,848
PRIOR FILING DATE: 2000-05-25
PRIOR FILING DATE: 2000-05-26
PRIOR FILING DATE: 2000-05-26
PRIOR APPLICATION NUMBER: 60/230,347
PRIOR APPLICATION NUMBER: 60/230,347
PRIOR FILING DATE: 2000-09-09
PRIOR FILING DATE: 2000-10-23
PRIOR PLING DATE: 2000-10-23
PRIOR PLING DATE: 2000-10-23
PRIOR APPLICATION NUMBER: 60/25,931
PRIOR PLING DATE: 2000-11-27
PRIOR APPLICATION NUMBER: 60/25,931
PRIOR PLING DATE: 2000-11-27
PRIOR APPLICATION NUMBER: 60/25,931
PRIOR PLING DATE: 2000-11-27
PRIOR APPLICATION NUMBER: 60/257,931
PRIOR PLING DATE: 2001-12-22
PRIOR PLING DATE: 2001-12-22
PRIOR PLING DATE: 2001-02-16
                                                                                                                                                                                                                                                                                                                          0; Mismatches
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Publication No. US20040029129A1
GENERAL INFORMATION:
APPLICANT: Wang, Liangsu
APPLICANT: Mandio, Carlos
APPLICANT: Malone, Cheryl
APPLICANT: Haselbeck, Robert
                                                                                                                                                                                                          ORGANISM: Haemophilus influenzae $-10-282-122A-58530
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Forsyth, R.
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Best Local Similarity 100.
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Carr, Grant
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Best Local Similarity
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APPLICANT: Xi, H.

TITLE OF INVENTION: Identification of Essential Genes in Microorganisms
FILE REPRENCE: ELITRA 0.34A

CURRENT APPLICATION NUMBER: 05/10/282,122A

CURRENT PILING DATE: 2003-02-20

PRIOR APPLICATION NUMBER: 60/10/6,848

PRIOR APPLICATION NUMBER: 60/20/6,848

PRIOR APPLICATION NUMBER: 60/20/7,727

PRIOR APPLICATION NUMBER: 60/20/335

PRIOR FILING DATE: 2000-05-26

PRIOR PLING DATE: 2000-09-06

PRIOR PLING DATE: 2000-09-06

PRIOR PLING DATE: 2000-09-09

PRIOR PLING DATE: 2000-10-23

PRIOR PLING DATE: 2000-11-27

PRIOR PLING DATE: 2000-11-22

PRIOR PLING DATE: 2001-02-09

PRIOR PRIOR PLING DATE: 2001-02-09

PRIOR PLING DATE: 2001-02-09
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NUMBER OF SEQ ID NOS: 78614
SOFTWARE: Patentin version 3.1
SEQ ID NO 68774
LENGTH: 89
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      0; Mismatches
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Ohlsen, Kari
Zyskind, Judith
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Forsyth, R.
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APPLICANT: Kovalic David K
                                                                                                                                                                                                                                                                                                                                                           Wang, Liangsu
Zamudio, Carlos
Malone, Cheryl
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Trawick, John
Carr, Grant
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Matches 4; Conserv
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ORGANISM: Glycine max FEATURE:
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APPLICANT: Zhou Yihua
APPLICANT: Cao Yongwei
TITLE OF INVENTION: SOy Nucleic Acid Molecules and Other Molecules Associated With
FILE OF INVENTION: SOY Nucleic Acid Molecules and Other Molecules Associated With
FILE REFERENCE: 38-21(53223) B
CURRENT APPLICATION NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 285684
inc ID NO 180307
INDRICHE: 89
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Publication No. US20040031072A1
GENERAL INFORMATION:
APPLICANT: La Rosa Thomas J
APPLICANT: Kovalic David K
APPLICANT: Zhou Yihua
APPLICANT: Zhou Yihua
APPLICANT: Zhou Yihua
APPLICANT: Shou Yihua
APPLICANT: Shou Yihua
APPLICANT: De INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILLE REFERENCE: 38-21(53223) B
CURRENT APPLICANTON NUMBER: US/10/424,599
CURRENT FILING DATE: 2003-04-28
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APPLICANT: BELLETIEN, JERRY
APPLICANT: GROS, PHILLIPPE
APPLICANT: DROW, MICHAEL
TITLE OF INVENTION: DNA SEQUENCES FROM S. PNEUMONIAE BACTERIOPHAGE EPI THAT
TITLE OF INVENTION: BACTERIOR ANTI-MICROBIAL POLYPEPTIDES
FILE REFERENCE: 073406-0603
CURRENT APPLICATION NUMBER: US/10/097,111
CURRENT PILING DATE: 2002-07-24
PRIOR APPLICATION NUMBER: 09/676,412
PRIOR APPLICATION NUMBER: 09/676,412
PRIOR APPLICATION NUMBER: 60/157,218
PRIOR APPLICATION NUMBER: 60/157,218
PRIOR PILING DATE: 1999-09-30
NUMBER OF SEQ ID NOS: 552
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 360
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100.0%; Pred. No. 1.2e+03;
tive 0; Mismatches 0;
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Abblication No. US20030138771A1
SENERAL INFORMATION:
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ORGANISM: Streptococcus pneumoniae
-10-097-111-360
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Best Local Similarity 100.
Matches 4; Conservative
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Gaps
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                                                                                                                                                  ; OTHER INFORMATION: Clone ID: PAT_MRT3847_64015C.1.pep
US-10-424-599-245830
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NUMBER OF SEQ ID NOS: 285684
SEQ ID NO 245830
LENGTH: 90
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